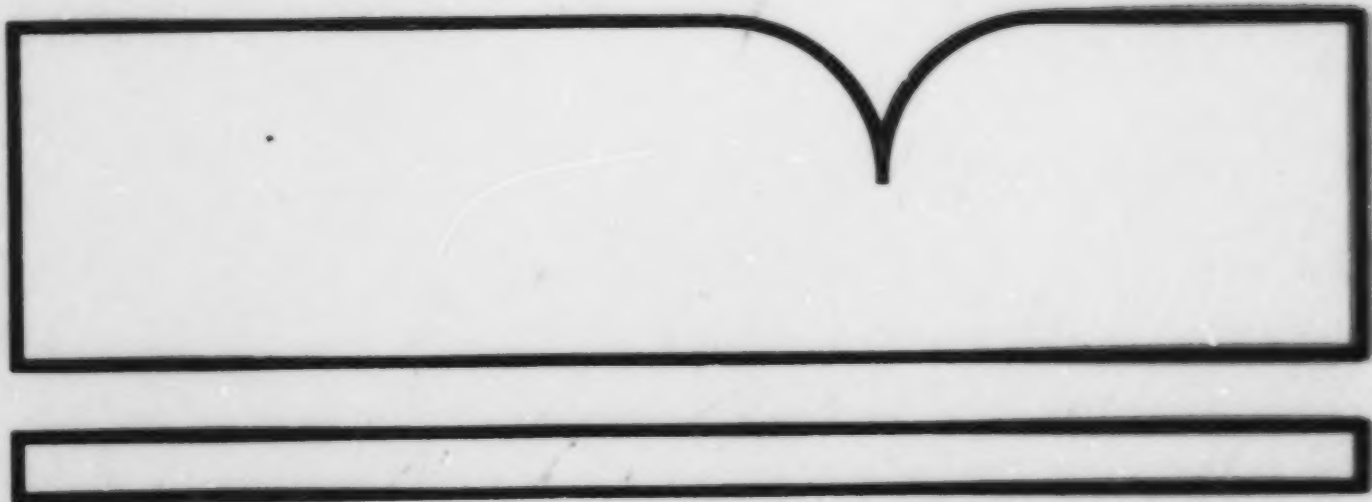


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Municipal Wastewater Treatment

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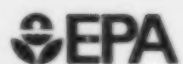
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United States Environmental Protection Agency

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Washington, D.C. 20460

July 1984

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CONTENTS

	<u>Page</u>
TABLE OF CONTENTS	iii
FOREWORD	xii
INTRODUCTION	
USER GUIDE	xiv
Reference to Federal Regulations	xiv
1981 Amendments to the Clean Water Act	xv
Terminology	xv
Other Guidance	xvi
Appendices	xvi
MANAGING YOUR PROJECT	xvi
Introduction	xvi
Clean Water Act	xvi
Grants Program	xviii
State Contact and State Delegation	xix
Project Management	xxi
Organizing the Project Team	xxi
Avoiding Project Delay	xxiii
Allowance for Facilities Planning and Design	xxiv
Compliance	xxvi

Chapter

PART I. FACILITIES PLANNING

1	FACILITIES PLANNING--PURPOSE AND CONTENT	1
1.0	Amendments of 1981	
1.1	Facilities Planning--Purpose and Definition	
1.2	Contents of Facilities Plan	
2	PREPLANNING	6
2.0	Preplanning Conference	
2.1	Eligible Applicant	
2.2	Plan of Study	
2.3	Intergovernmental Coordination	
2.4	Procurement of Services	
3	FACILITIES PLANNING CONSIDERATIONS	8
3.0	General Preparation Procedures	
3.1	Public Participation	
3.2	Environmental Review Process	
3.2.1	Environmental Information Document	
3.2.2	Historical and Archaeological Sites	

CONTENTS (continued)

<u>Chapter</u>	<u>Page</u>
3 (continued)	
3.2.3 Floodplains, Wetlands, and Flood Insurance	
3.2.4 Agricultural Lands	
3.2.5 Coastal Zone Management	
3.2.6 Wild and Scenic Rivers	
3.2.7 Fish and Wildlife Protection	
3.2.8 Endangered Species Protection	
3.2.9 Air Quality	
3.2.10 Water Quality and Quantity	
3.2.11 Direct and Indirect Impacts	
3.2.12 Mitigating Adverse Impacts	
3.2.13 Determining Need for an EIS	
4 WATER QUALITY MANAGEMENT PLANS RELATED TO FACILITIES PLANNING .	21
4.0 Water Quality Management (WQM) Plans	
4.1 State Priority System and Project Priority List	
4.2 Wasteload Allocation/NPDES Permit	
4.3 Biennial Water Quality Report	
4.4 Quality Assurance	
5 EXISTING AND FUTURE CONDITIONS	24
5.0 Project Need and Planning Area Identification	
5.1 Existing Environment of the Planning Area	
5.2 Existing Wastewater Flows and Treatment Systems	
5.3 Effluent Limitations	
5.4 Infiltration and Inflow (I/I)	
5.4.1 Sewer Use Ordinance and Sewer Maintenance Program	
5.5 Future Conditions	
5.5.1 Population and Land Use Projections	
5.5.2 Forecasts of Flows and Wasteloads	
5.5.3 Flow Reduction	
5.6 Future Environment Without the Project	
6 DEVELOPMENT AND SCREENING OF ALTERNATIVES	32
6.0 Development of Alternatives	
6.1 Optimum Operation of Existing Facilities	
6.2 Regionalization	
6.3 Unsewered Areas	
6.4 Conventional Collection System	
6.5 Alternative Conveyance Systems	
6.6 Evaluation of Sewer Alignments	
6.7 Wastewater Management Techniques	
6.7.1 Conventional Technologies	

CONTENTS (continued)

<u>Chapter</u>	<u>Page</u>
6 (continued)	
6.7.2 Alternative Technologies	
6.7.3 Innovative Technology	
6.7.4 Innovative and Alternative Cost Preference	
6.8 Combined Sewer Overflows	
6.9 Municipal Treatment of Industrial and Federal Facilities Wastes	
6.10 Staged Construction	
6.11 Multiple Purpose Projects	
7 EVALUATION OF PRINCIPAL ALTERNATIVES AND PLAN ADOPTION	53
7.0 Alternative Evaluation	
7.1 Evaluation of Monetary Costs	
7.1.1 Sunk Costs	
7.1.2 Cost Escalation Factors for Energy Use and Land	
7.1.3 Allocation of Costs for Multiple Purpose Projects	
7.2 Reserve Capacity	
7.3 Demonstration of Financial Capability	
7.3.1 Assuring Low Cost Projects for Smaller Communities	
7.4 Capital Financing Plan	
7.5 Environmental Evaluation	
7.6 Evaluation of Reliability	
7.7 Evaluation of Energy Requirements	
7.8 Evaluation of Implementability	
7.9 Evaluation of Recreational Opportunities	
7.10 Comparison of Alternatives	
7.11 Views of the Public and Concerned Interests	
8 SELECTED PLAN, DESCRIPTION, AND IMPLEMENTATION ARRANGEMENTS . .	64
8.0 Justification and Description of Selected Plan	
8.1 Design of Selected Plan	
8.2 Cost Estimates for Selected Plan	
8.3 Energy Requirements of Selected Plan	
8.4 Environmental Impacts of Selected Plan	
8.5 Arrangements for Implementation	
8.5.1 Intermunicipal Service Agreements	
8.5.2 Civil Rights Compliance	
8.5.3 Operation and Maintenance Requirements	
8.5.4 Pretreatment Program	

CONTENTS (continued)

<u>Chapter</u>	<u>Page</u>
8 (continued)	
8.6 Land Acquisition	
8.6.1 General Acquisition Considerations	
8.6.2 "No-Cost Arrangments"	
8.6.3 Acquisition Method	
8.6.4 Allowable Land Costs	
9 REVIEW OF FACILITIES PLANS	72
9.0 Review and Evaluation	
9.1 Summary Checklist	
9.2 State Agency Review	
9.2.1 Advanced Treatment Review	
9.2.2 EPA Actions Under NEPA	
PART II. DESIGN	
10 PREDESIGN	75
10.0 Predesign Conference	
10.1 Field Testing of Innovative or Alternative Technology	
11 DESIGN AND ADMINISTRATIVE CONSIDERATIONS	77
11.0 Design and Administrative Considerations	
11.1 Design Considerations	
11.1.1 Pretreatment and NPDES Permit	
11.1.2 Wet and Dry Well Classifications	
11.1.3 Use of Mercury Seals	
11.1.4 Shellfish Waters	
11.1.5 Disinfection	
11.1.6 Chlorination Systems Using Gaseous Chlorine	
11.1.7 Chemical Storage and Hazardous Materials	
11.1.8 Safety	
11.1.9 Bypassing of Sewage	
11.1.10 Public Water Supply	
11.1.11 Ventilation	
11.1.12 Laboratory Facilities	
11.1.13 Emergency Alarms	
11.1.14 Equipment and Materials	
11.1.15 Land Application Systems	
11.1.16 Erosion and Sediment Control	
11.1.17 Mitigation of Adverse Environmental Impacts	
11.1.18 Sewers	
11.1.19 Sewer Rehabilitation	

CONTENTS (continued)

<u>Chapter</u>	<u>Page</u>
11 (continued)	
11.1.20 Operation and Maintenance	
11.1.21 Handicapped Access	
11.1.22 Use of Recovered Materials	
11.2 Administrative Considerations	
11.2.1 Bidding Documents	
11.2.2 Bonding and Insurance	
11.2.3 Construction Incentive Program	
11.2.4 Buy American	
11.2.5 Royalties	
11.2.6 Project Sign	
11.2.7 Small, Minority, Women's and Labor Surplus Area Businesses	
11.3 Design Review	
12 . . . CONCURRENT ACTIVITIES DURING DESIGN	94
12.0 Concurrent Activities	
12.1 Value Engineering	
12.1.1 VE Team and Qualifications	
12.1.2 Scope of Work	
12.1.3 Proposal Cost and Timing	
12.2 User Charge System	
12.2.1 Actual Use	
12.2.2 Ad Valorem Taxes	
12.2.3 Other User Charge Considerations	
12.2.4 Adoption of System	
12.3 Sewer Use Ordinance	
12.4 Plan of Operation	
12.4.1 Budget	
12.4.2 Financial Management System	
12.4.3 Staffing and Training	
12.4.4 Emergency Operations Program	
12.4.5 Administrative Functions	
12.4.6 Start-up Services	
12.4.7 Operation and Maintenance Manual	
12.4.8 O&M Program for Complete Wastewater Treatment Systems	
12.5 Onsite and Cluster Systems	
12.6 Innovative Designation Reconfirmation	
12.7 Planning for Local Funds	

PART III. CONSTRUCTION

13 . . . GRANT APPLICATION	105
--------------------------------------	-----

CONTENTS (continued)

<u>Chapter</u>	<u>Page</u>
13 (continued)	
13.0 Narrative Statement	
13.1 Contents of Application	
13.1.1 Intergovernmental Coordination	
13.1.2 Application Form	
13.2 Limitations on Award	
13.3 Other Step 3 Considerations	
13.4 Procurement	
13.5 Federal Grant Share	
13.6 Grant Award	
14 . . . PROJECT CONSTRUCTION	114
14.0 Project Construction	
14.1 Grant Increases/Decreases	
14.1.1 Grant Increase	
14.1.2 Grant Decrease	
14.2 Preconstruction Conference	
14.3 Monitoring Construction	
14.3.1 Onsite Observation	
14.4 Payment Requests and Limitations	
14.5 Plan of Operation	
14.6 Project Performance	
14.6.1 Project Schedule	
14.6.2 I/I Rehabilitation	
14.6.3 Engineering Services	
14.6.4 Corrective Action	
14.7 Abandonment	
14.8 Wastewater Process Influent Variations	
14.9 Change Orders	
14.9.1 Duties and Responsibilities	
14.9.2 Conditions That May Warrant a Change Order	
14.9.3 Preparation of the Change Order	
14.9.4 Reviewing Agency Procedures	
14.9.5 Reference Material	
PART IV. FINANCIAL AND PROCUREMENT CONSIDERATIONS	
15 . . . FINANCIAL CONSIDERATIONS	146
15.0 Allowable and Unallowable Costs	
15.1 Replacement Costs	
15.2 Innovative and Alternative Technology Replacement Grant	
15.3 Force Account	

CONTENTS (continued)

<u>Chapter</u>	<u>Page</u>
15 (continued)	
15.3.1 Prior Approval	
15.3.2 Other Force Account Considerations	
15.4 Payments	
15.4.1 Preaward Costs	
15.4.2 Interim Payments	
15.4.3 Final Payment	
15.5 Grant Increases/Decreases	
15.6 Audits	
15.6.1 Financial Records	
15.6.2 Audit Procedures and Reports	
16 PROCUREMENT	153
16.0 Introduction	
16.1 Procurement Certification	
16.2 Procurement Management and Reporting	
16.3 Methods of Procurement	
16.4 Formal Advertising	
16.4.1 Solicitation for Bids	
16.4.2 Bid Receipt and Opening	
16.4.3 Bid Evaluation	
16.5 Competitive Negotiation	
16.5.1 Public Notice	
16.5.2 Evaluation of Proposals	
16.5.3 Negotiation and Award of Subagreement	
16.5.4 Optional A/E Selection Procedure	
16.5.5 Use of the Same A/E During Construction	
16.5.6 Cost and Price Considerations	
16.6 Noncompetitive Negotiation	
16.7 Small Purchases	
16.8 Subagreements	
16.9 Minority, Women's, Small and Labor Surplus Area Businesses	
16.10 Subagreement Clauses	
16.11 Protests	

INDEX

FIGURES AND TABLES

Figure 1. Construction Grants Process	xvii
Figure 2. Major Activities in the Construction Grants Program	xx

CONTENTS (continued)

	<u>Page</u>
FIGURES AND TABLES (continued)	
Figure 3. Procedural Flow Chart for Facilities Planning for Wastewater Treatment and Sludge Management	3
Figure 4. General Facilities Plan Preparation Procedures	9
Figure 5. Comparison of Principal Alternatives	62
Figure 6. Project Schedule: Pre-Performance Certification Period	121
Figure 7. Project Schedule: Performance Certification Period	122
Figure 8. Project Performance Certification	124
Figure 9. Sample Certificate of Performance for Publicly Owned Treatment Works	125
Figure 10. I/I Reduction Acceptability Analysis	128
Table 1. Wastewater Treatment System Reliability	87
Table 2. Sludge Handling and Disposal System Reliability	88
Table 3. Electric Power System Reliability	89
Table 4. Grantee and Contractor Responsibilities	118

APPENDICES

Appendix

- A - Advanced Treatment (AT) Review
- B - List of EPA Publications
- C - Before and After Study Guidance
- D - National Municipal Policy
- E - Present Worth and Cost Preference
- F - Farmers Home Administration (FmHA)
- G - Supplemental Information for Land Acquisition
- H - Wet Well and Dry Well Classification
- I - Construction Incentive Clause
- J - EPA Project Sign
- K - Financial and Management Capability Information Sheet
- L - 1981 Amendments to the Clean Water Act
- M - 40 CFR Part 35, Final Regulations
- N - 40 CFR Part 33, Final Regulations
- O - Alternative Justifiable Expenditure Method of Cost Allocation
- P - CSO Guidance
- Q - 40 CFR Part 30, Final Regulations
- R - How to Conduct a Sanitary Survey

FOREWORD

This book is a part of our ongoing effort to simplify and delegate the municipal construction grants program. It replaces its predecessor, CG-82, and is based upon the final procurement and construction grant regulations (40 CFR Part 33 and Part 35) published in the Federal Register on March 28, 1983 (as amended) and February 17, 1984, respectively (Appendix M and N). We did not publish a CG-83 or CG-84 because the final construction grant regulation had not been issued. The final regulation fully implements the 1981 Amendments to the Clean Water Act (except for Section 23, proposed regulation published November 11, 1983), as well as those policies which the Agency feels are necessary for sound management of the construction grants program.

The final regulations implementing the 1981 amendments to the Federal Water Pollution Control Act contain the requirements for obtaining grant assistance under the construction grants program. To distinguish regulatory requirements from discretionary guidance or suggestions of good practice in CG-85, the following conventions are used: Requirements use the words "must" or "will" or are written as imperative statements and are identified by a bar in the margin. If there appears to be a difference between the regulations and their restatement in CG-85, the regulations govern. Recommended methods or formats to meet regulatory requirements use the word "should". Suggestions of good practice, which may not relate to a particular requirement, use the words "can" or "may". A municipality is not required to follow the guidance in CG-85 in order to qualify for Federal grant assistance.

As stated in CG-82 and reconfirmed here, it is our desire to focus on current statutory and program requirements that are necessary to ensure effective project management. Our concern continues to be results, not procedures, and we want those results achieved in the most effective and reasonable manner possible. The guidance in CG-85 is being provided to facilitate achieving those results at reasonable costs. Where a municipality or State develops alternative procedures to meet the stated results, then those procedures are satisfactory.

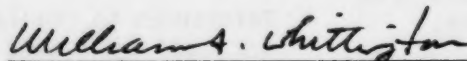
The changes in the final construction grants regulation are described in their preamble and result from public comment and agency experience since the publication of the interim final regulation on May 12, 1982. The regulatory changes are reflected in CG-85. In addition, we have included a few changes in CG-85 which represent new Agency policy for effective management of the construction grants program. Among these changes are: a detailed discussion of the review of advanced treatment facilities (Appendix A); increased emphasis on financial capability of grant applicants (Appendix K); more detailed discussion of categorical exclusion from substantive environmental review; increased discussion of innovative technology; the National Municipal Policy (Appendix D); and reintroduction of the construction incentive provisions (Appendix I).

As we continue to review our management of the construction grants program, we remain committed to reducing procedural requirements for planning, design and building of wastewater treatment works, to publishing new requirements only where

required by law or executive order or where absolutely essential for effective program management and to facilitate delegation of the review and approval of projects to the States. In line with reducing program requirements, we remind you that all Program Requirements Memoranda (PRMs) and Program Operations Memoranda (POMs) were previously cancelled. To determine which regulations, PRM, POM, and other Agency policies apply to earlier grant projects, refer to "Regulation and Policy Matrix" (Appendix B).

We may at some time in the future find it constructive to update or revise CG-85 to provide improved guidance. For this reason we encourage comment on the contents, format and usage of CG-85. Send any comments or suggestions to the Director, Office of Water Program Operations (WH-547), U.S. Environmental Protection Agency, Washington D.C. 20460.*

In closing, while clean water for the nation must be achieved by mutual commitment of all levels of government (local, State, and Federal) the greatest responsibility for the goal of clean water lies with the community. It is the community that must make sure that wastewater treatment facilities are planned and constructed properly. It is also the community that makes the long-term commitment to operate and maintain the system throughout its useful life. To meet these responsibilities successfully, communities must provide adequate financial resources and effective financial management. This book provides guidance to help accomplish each step.



William A. Whittington, Acting Director
Office of Water Program Operations

* This guidance document may not be in compliance with the laws or requirements of every State. Prior to initiation of a project, a municipality should contact their State agency to ensure conformance with all State requirements.

INTRODUCTION

USER GUIDE

This book contains guidance to participants of EPA's municipal construction grants program. Guidance is discretionary and provides information and suggestions to help communities successfully plan, design, and build municipal sewage treatment works.

A major purpose of this document is to help communities seeking or managing a construction grant to comply with all program requirements contained in Federal regulation. Therefore, for continuity and clarity, we have summarized those regulatory requirements at appropriate points within the text. To identify them as mandatory, we have employed words such as "must" and "will," and highlighted them with a bar in the left margin. Because these statements are summaries, the reader should not rely on them as substitutes for the regulations. If there appears to be a difference between the regulations and the guidance, the regulations govern.

The Agency is considering several technical amendments to the Innovative/Alternative (I/A) provisions of the final Construction Grant Regulation published February 12, 1984. Sections of the document which may be effected by such amendments are marked with an *. If you have any questions concerning current policy of the guidance presented in these sections, contact your Regional or State I/A coordinator for assistance.

This latest revision of the construction grants guidance supplements the current construction grants regulations (40 CFR 35, Subpart I)

published in the Federal Register on February 17, 1984. These regulations are effective for all grants awarded on or after this date. Facilities plans and designs initiated prior to February 17, 1984, continue to be subject to the requirements in effect at that time (40 CFR 35, Subpart E or I). Work done under Subpart E will be accepted for grant awards under the current regulations.

Contact your State reviewing agency to determine additional State requirements, if any, prior to initiating your project.

This book contains guidance from the preplanning stage to construction and the initial operation of the treatment works. It is divided into four major parts (planning, design, construction and initial operation, and financial/procurement). You may need to review only those parts which correspond to the present stage of development of your project.

Reference to Federal Regulations

References to regulations in this book are made by citing specific portions of the Code of Federal Regulations (CFR). Virtually all regulations applicable to the construction grants program are contained in Title 40--Protection of Environment. Title 40, in turn, is broken into parts, sections, and subsections. For example, 35.2108 means (Title 40) Part 35, Section 2108.

When other titles of the CFR are cited, they will include the title numbers before the letters CFR followed by the part, section, and subsection. Therefore, 10 CFR 2.7-3 means Title 10--Energy, Part 2, Section 7, Subsection 3.

At times it is necessary to cite material published in the Federal Register. This reference will be shown as 45 FR 2186 which means Volume 45, Federal Register, page 2186. When reference is made to a law, the common name is generally used followed by letters and numbers. For example, the Clean Water Act (CWA) of 1977 is the common name and PL 95-217 means Public Law, 95th Congress, 217th law enacted by that Congress.

1981 Amendments to the Clean Water Act

The Municipal Wastewater Treatment Construction Grants Amendments of 1981, enacted on December 29, 1981, significantly changed the procedural and administrative aspects of municipal construction grants made after that date. Detailed implications of these changes are contained in the regulations and are incorporated throughout this book. For easy reference, the changes are highlighted in Appendix L.

Terminology

The terminology used in this book is defined in the regulations, 40 CFR Parts 30, 33, or 35 (refer to Appendices M, N, and Q). Although separate Federal grants are no longer provided for facilities planning and design of projects, the previous designation of these activities as Step 1, facilities planning, and Step 2, design, will be retained because of their common usage and understanding. The term Step 3 grant refers to building of the project for which grant assistance is awarded. The term Step 2+3 grant refers to a Step 3 grant award which includes an allowance (percentage of the cost of building the project) for

design activities. Normally, Step 3 grant assistance will include an allowance for the planning and design activities.

The term "building" rather than "construction" has been used throughout this book to describe those activities (erection, acquisition, alteration, remodeling, improvement or extension of facilities to transport and treat wastewater) for which Step 3 grant assistance is awarded. This is done because the word "construction," as used in the past, is defined in the law to include facilities planning and design. However, in several locations the word "construction" is used where its use is quite clear and less wordy (e.g., construction drawings rather than building drawings).

The term "advance" refers to the Federal funds provided to small communities that, in the opinion of the State, would not be able to complete the application requirements (facilities planning and design) without such an advance. If Step 3 grant assistance is eventually awarded, the advance will be subtracted from the allowance.

If Step 2+3 grant assistance is eventually awarded, the amount of allowance will be based on the estimated Step 3 building cost in the Step 2+3 application. If the grantee has not received a grant or advance for facilities planning, the Agency will pay 30 percent of the Federal share of the estimated allowance as soon as requested after the Step 2+3 grant award. EPA will pay half the remaining allowance when the design is 50 percent complete. The final portion of the allowance will be paid after the grantee awards all prime subagreements for building the project.

Projects that received a Step 1 and/or Step 2 grant prior to the enactment of the 1981 amendments to the CWA should be completed in accordance with the terms and conditions of their grant agreement. Those projects that received a Step 1 grant, but no Step 2 grant, prior to December 29, 1981, will receive a design allowance when they receive their Step 3 grant assistance. However, no allowance for facilities planning and design will be included in a Step 3 grant for projects that received a Step 2 grant prior to December 29, 1981.

As used in this book, the term "project reviewer" means a State employee reviewing your project in a State that has been delegated responsibility for administration of the construction grants program or an EPA employee reviewing the project in a nondelegated State. The term "reviewing agency" means the State water pollution control agency or, in a few instances, EPA.

Other Guidance

The text incorporates Federal regulatory requirements and, at times, refers to other EPA guidance publications. The referenced guidance publications are generally technical (e.g., design criteria for land application systems) and provide much greater detail than required for this book. Additional State requirements, if any, will be provided by your project reviewer.

Appendices

Appendices in this book contain a listing of applicable EPA technical publications, construction grants and procurement regulations, and

technical design or evaluation criteria. Copies of the publications listed in Appendix B may be obtained from your reviewing agency or from the address listed in the appendix. Multiple copies may be obtained from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161.

MANAGING YOUR PROJECT

Introduction

This section is intended to assist you in managing your project. It provides a description of the basic objective of the CWA, provides a summary of the construction grants program including an expanded discussion of the 1981 amendments; discusses State delegation, your project team, and other topics that will be of assistance in managing your project from inception through building construction and operation. Figure 1 (Page xvii) represents the organization of CG-85 and the flow of activities during the grants process. A listing of major activities in the construction grants program is provided at the end of this introduction.

Clean Water Act

The objective of the CWA as amended in 1981, sometimes referred to herein as "the Act", is "...to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." This objective is to be achieved in part by:

- o Development of water quality standards and the regulations necessary to enforce them;

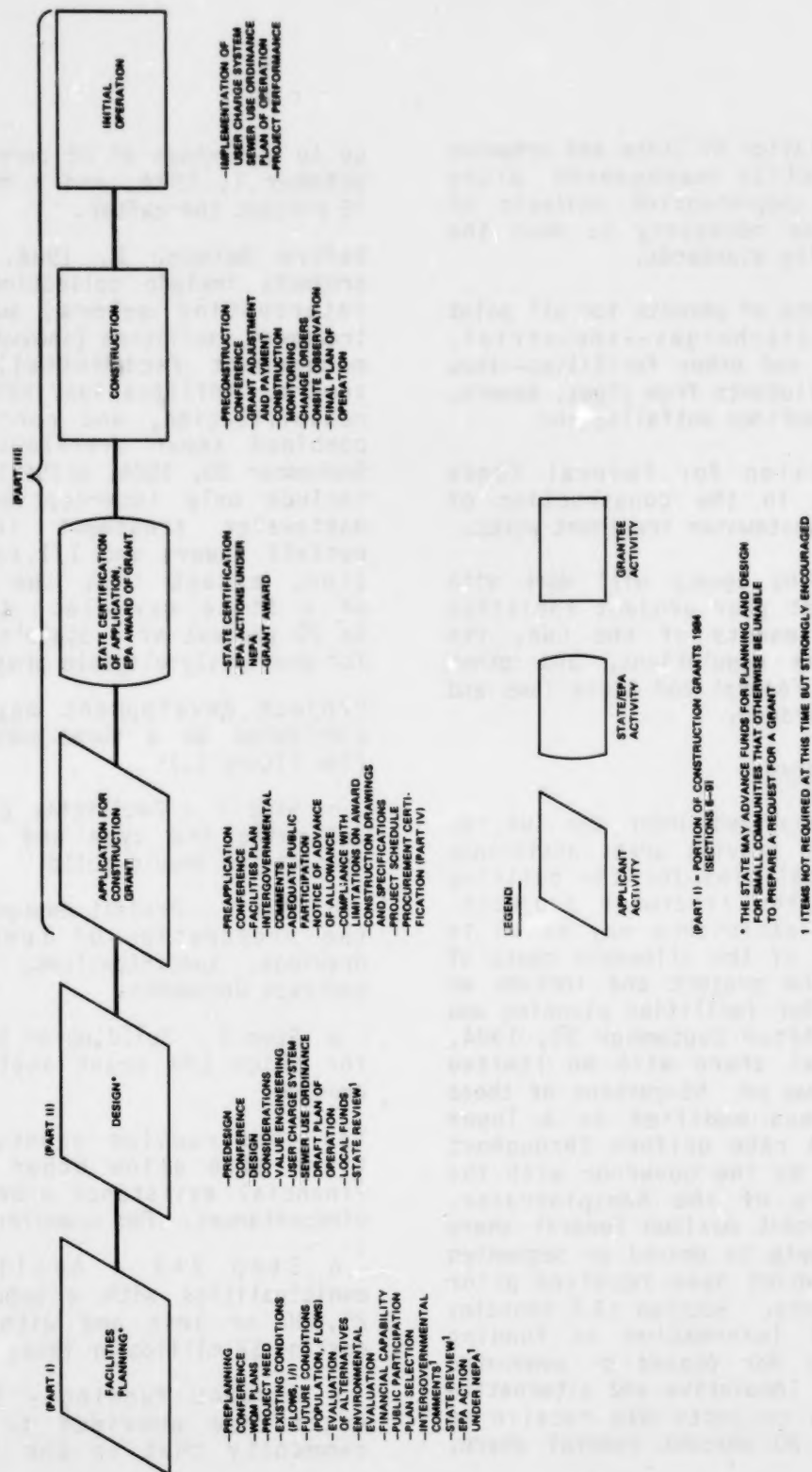


Figure 1 Construction Grants Process

- o Formulation of State and areawide water quality management plans including comprehensive analysis of the actions necessary to meet the water quality standards;

- o Issuance of permits for all point source discharges--industrial, municipal, and other facilities--that release pollutants from pipes, sewers, or other confined outfalls; and

- o Provision for Federal funds to assist in the construction of municipal wastewater treatment works.

The reviewing agency will work with you so that your project satisfies the requirements of the CWA, its implementing regulations, and other applicable Federal and State laws and Executive Orders.

Grants Program

EPA is authorized under the CWA, as amended, to provide grant assistance to municipalities for the building of wastewater treatment projects. EPA grant assistance may be up to 75 percent of the allowable costs of building the project and include an allowance for facilities planning and design. After September 30, 1984, the Federal share will be limited to a maximum of 55 percent of these costs unless modified to a lower percentage rate uniform throughout the State by the Governor with the concurrence of the Administrator. The 55 percent maximum Federal share may not apply to phased or segmented projects which have received prior Step 3 grants. Section 13.5 contains additional information on funding limitations for phased or segmented projects. Innovative and alternative technology projects may receive an additional 20 percent Federal share,

up to a maximum of 85 percent before October 1, 1984, and a maximum of 75 percent thereafter.

Before October 1, 1984, eligible projects include collection systems, intercepting sewers, wastewater treatment facilities (including sludge management facilities), outfall sewers, infiltration/inflow (I/I) rehabilitation, and correction of combined sewer overflows. After September 30, 1984, eligible projects include only intercepting sewers, wastewater treatment facilities, outfall sewers and I/I rehabilitation, except that the Governor of a State may elect to use up to 20 percent of a State's allotment for previously eligible projects.

Project development may best be considered as a three-step process. (See Figure 1.)

- o Step 1 - Facilities planning to determine the type and extent of project you should build.

- o Step 2 - Project design including the preparation of construction drawings, specifications, and other contract documents.

- o Step 3 - Building of the project for which EPA grant assistance is awarded.

The construction grants regulations also allow other types of financial assistance under certain circumstances. For example:

- o Step 2+3 - Available to municipalities with a population of 25,000 or less and with projects costing \$8 million or less;

- o Advance funding - Financial assistance provided to a small community that in the judgement

of the State would otherwise be unable to prepare a request for a construction grant; advance funds so provided are based on an allowance of costs to prepare a facilities plan and design the project; the advance will be subtracted from any subsequent grant or may be recovered by the State agency if no grant is made.

After the Federal government appropriates funds for the grants program, EPA allots the funds to the States based on a formula set by law. Each State, in turn, prepares a list of all projects to be funded and ranks the projects in order of their importance. The resulting list is called the State project priority list. Your project must be sufficiently high on the list and be within the fundable range for any given fiscal year in order for you to obtain a grant.

Your application for grant assistance, including supporting documents, is submitted to your State agency. It reviews the application, and if the State has sufficient funds, it certifies your project and sends the application to EPA. If EPA approves your application and makes you a grant offer, after your acceptance, you may begin the procurement procedures necessary to build the project (See Section 16). EPA must approve or disapprove an application certified by a State, with sufficient delegated authority, within 45 days of receipt or the application is automatically approved (40 CFR 35.2042).

The grant award sets aside (obligates) funds for your project. You request payments from EPA during construction as costs are incurred. Partial

payment of your facilities planning and design allowance may be requested immediately after grant award. Advance payment of building costs is generally not allowed.

Your Step 3 project costs are subject to audit by the Federal government; therefore, you should keep adequate and accurate records. You should obtain guidance on eligible and allowable costs from your project reviewer before making expenditures. This will help prevent audit exceptions and resulting financial problems.

State Contact and State Delegation

You should first contact your state reviewing agency to obtain information and an application package. Also, if you have not already done so, request information as to how to become listed on the State project priority list.

In order to eliminate duplicate reviews of project documents, EPA is delegating responsibility for management and administration of the construction grants program to the States. Some activities such as grant awards, payments, final audit determinations, final resolution of disputes, and bid protest appeals remain the responsibility of EPA. Several other activities may be shared with the States while EPA retains responsibility for the final actions. Most of the direct project activities of EPA can and are being delegated to the States. The extent of delegation varies from State to State and you should check with your project reviewer to determine how this may effect you. Figure 2 identifies materials to be submitted to the State.

<u>Action</u>	<u>Regulation*</u>	<u>Submit to</u>	
		<u>State</u>	<u>EPA</u>
A. Request advance (optional)	35.2025(b)	X	
B. Request environmental scoping (optional)	35.2113, 35.2030(c)	X	X
C. Facilities Plan			
-Existing environment (no-action alternative)	40 CFR 6.507		
-Effluent requirements	35.2030(b)(2)		
-I/I analysis (if applicable)	35.2030(b)(4)		
-Alternative evaluation	35.2030(b)(3)		
-Open space and recreation evaluation	35.2030(b)(5)		
-Environmental evaluation	35.2030(b)(6); 40 CFR Part 6		
-Public participation	40 CFR 6.504, 35.2040		
-Meet requirements of all other laws	30.405		
-CSO need and benefits (if applicable)	35.2024		
-Selected alternative	35.2030(b) (1) & (8)		
-Complete waste treatment system	35.2030(b)(1)		
-Applicant's financial (etc) capability	35.2104(b)		
-Consistency with WQM plan	35.2102		
D. Project Design			
-Value engineering	35.2114		
-User charge system	35.2140		
-Sewer use ordinance	35.2130		
-Plan of operation	35.2106		
-O&M Manual	35.2206		
-Intermunicipal services agreements	35.2107		
E. Intergovernmental Review Under E.O. 12372	40 CFR Part 29	X	
-Compliance with limitations on award	35.2100	X	
F. Final design and specifications and the project schedule	35.2040	X	
G. Grant application (D through G)	35.2040		
H. State certification	35.2042		
I. State preliminary environmental assessment	40 CFR 6.507		
J. State submit grant application package (D through K)	35.2042		X
-Procurement	40 CFR Part 33	X	
-Project changes	35.2204	X	
-Project performance	35.2218	X	
-Notice of building completion and final inspection	35.2216	X	

*Regulations are from 40 CFR Part 35 unless otherwise indicated.

Figure 2 Major Activities in the Construction Grants Program

Project Management

The single most important task of a municipal official with regard to a wastewater project is to manage the project to ensure its timely and economical completion. This entails bringing people together to select the most appropriate technology, making financial arrangements to pay the local share, obtaining a Federal and possibly a State grant or loan to help pay the costs, managing the cash flow of all funds, and moving the project from development to completion with a minimum of delay.

Organizing the Project Team

To make a project run as smoothly as possible, you will need a project team. The team should consist of:

- o Municipal project manager
- o Architect/Engineer/Construction Manager
- o Accountant
- o Financial Advisor
- o Attorney
- o Construction contractor
- o Treatment plant operator

o Municipal Project Manager

The municipal project manager oversees all activities necessary to keep the project moving. The manager's primary responsibility is to maintain control over the progress of the project and ensure that everyone is doing his job on time. Ideally, the municipal project manager is a full-time municipal employee with experience in dealing with regulatory agencies and Federal grants.

The municipal project manager will need to keep excellent records, logs, and a follow-up system to ensure

that nothing is overlooked. The manager should keep project reviewers informed of progress and forewarn them of decisions they will have to make in the near future. If the project reviewer changes, it may be beneficial to arrange a meeting to bring the new project reviewer up to date on the current status of the project.

o Architect/Engineer

The selection of a competent, experienced architect/engineer (A/E) is perhaps the most important decision you will make to ensure that your project is done correctly, on time, and satisfies all applicable State and Federal laws. In most cases, an A/E will do most of the work in the planning and design phases of your project and may provide other services during building construction and initial operation of the treatment works. The A/E's primary responsibilities prior to grant application are to complete the technical portions of the facilities plan, prepare and coordinate the design, prepare the construction drawings, specifications and contract documents, estimate project costs, prepare other reports which may be necessary, and provide you with professional engineering advice.

Other A/E services may include value engineering (VE) or construction management. A VE review is required for projects with estimated building costs exceeding \$10 million. Construction management services, while optional, may provide specialized skills to ensure efficient and timely construction. Firms specializing in construction management are best hired as early as possible, preferably during the planning phase, so that you can realize the maximum benefit from

their services. A construction management firm can help you control project costs, completion time, and ensure quality construction. Typical construction management services include developing, monitoring, and updating the project budget and schedule; reviewing A/E and construction contractor staffing plans to insure that adequate manpower will be used to enable the project to stay on schedule; providing advice to the A/E on construction phasing, trade practices, and the suitability and availability of various construction materials; making recommendations concerning bid packaging to increase competition; expediting delivery of equipment which you are purchasing directly; and inspecting construction to insure conformance with the specifications. Despite the A/E's role, it is your municipality's project and you are responsible for proper management of the project.

o Accountant

Since you will be using Federal funds to build your project and are therefore subject to Federal audit of your Step 3 project costs, it is essential to maintain accurate and detailed accounts. Incomplete or inaccurate accounts can lead to the loss of part of your grant and place an undue financial burden on your community. To maintain financial records, you should use your municipal accountant or a private accounting firm. The accountant should keep separate ledgers for the EPA project, identify allowable and unallowable costs, maintain vouchers for all costs incurred, and employ generally accepted accounting practices.

The accountant should make an appointment with the project reviewer to discuss the type and detail of

records to be maintained. An EPA publication entitled "Accounting Guide for Construction Grants" and Appendix A to the EPA regulations 40 CFR Part 35 Subpart I will be helpful to your accountant (Appendix M).

o Financial Advisor

In addition to maintaining financial records, your community's financial advisor can help you assess the financial capability of your residents and community to afford the project, suggest alternate funding mechanisms and help decide how to proceed. Either the municipal accountant or a private accounting firm should be assigned this responsibility.

o Attorney

You will need the assistance of an attorney in procuring goods and services (e.g., construction contractors), completing the application, acquiring property and obtaining easements or rights-of-way. Your municipal attorney should be able to provide these services.

o Construction Contractor

The construction contractor's responsibilities will be defined in the contract documents accompanying the construction drawings and specifications prepared by your A/E firm. Construction contractors should be selected through a competitive process and will play an important role as part of your project team.

o Treatment Plant Operator

Your treatment plant operator should be included in your project team at

the earliest possible time. The operator may offer suggestions during design to ensure efficient operation and maintenance or make other operational recommendations such as staffing or training. During building your operator will have an opportunity to observe and note location of underground structures or piping which may be of assistance later should operational problems occur.

Avoiding Project Delay

The list below briefly describes common issues which cause project delays and often result in avoidable hardships to municipalities. These issues are each addressed in later sections of this book but are highlighted here as an early warning to project managers. In addition, a checklist of major items that are required at the completion of facilities planning is included in Section 9.1.

o Project Responsibility - Although the EPA grant may represent up to 85 percent (75 percent after September 30, 1984) of the allowable project costs and substantial work may be performed by your contractors (e.g., A/E or construction contractors), you are responsible for the successful management and completion of your project including operation, maintenance and replacement during the design life of the project, necessary to meet your National Pollutant Discharge Elimination System (NPDES) permit requirements. In addition, it is your responsibility that your project meet its project performance standards within 1 year after the date of initiation of project operation. Upon completion of this 1-year performance period, you

must certify to your reviewing agency whether or not the project is meeting its performance standards. If you cannot provide affirmative certification, a corrective action report and schedule must be developed and submitted to your reviewing agency (Section 14.6). The section of the grant application entitled "Assurances" sets forth your responsibilities once the grant is accepted and should be reviewed carefully.

o Funding Local Share

Your State may provide a State grant to cover all or some of the non-EPA share; however, you must raise any remaining local share of the project costs.

It may be possible to obtain loans or loan guarantees from other Federal agencies. You may also be eligible to receive grants from other Federal agencies provided that the laws administered by these agencies allow their grant funds to be used as your local share. In the case of qualified areas, the Farmers Home Administration may be able to help you fund the costs not covered by EPA. Another possible source of funds could be the Department of Housing and Urban Development. For further information contact your project reviewer.

After you have exhausted all possible sources of funds, arrange to raise the remaining local share by, for example, selling revenue bonds or general obligation bonds, using revenue anticipation notes, or using special funds earmarked for your wastewater project.

o Intermunicipal Service Agreements

Many projects involve more than one municipality, and it is sometimes

difficult to come to agreement with all of the jurisdictions involved. During your facilities planning activities you should have reached agreement with the other jurisdictions with regard to cost sharing, operation and maintenance responsibilities of each party, enactment of ordinances concerning sewer use and user charges, and any other legally binding procedures necessary for implementing the project. While you are not required to execute intermunicipal service agreements at the completion of facilities planning, it may be prudent to do so or at least have a meeting of the minds as reflected in a written agreement.

Executed intermunicipal service agreements are required with the Step 3 application for grant assistance or before initiation of procurement action for building on a Step 2+3 project unless waived by the EPA Regional Administrator. Therefore, you should consider starting early to negotiate agreements and, if at all possible, have a written agreement before beginning work on the design of your project.

Allowance for Facilities Planning and Design

One of the most significant changes in the construction grants program resulting from the 1981 Amendments is the elimination of grants for planning (Step 1) and design (Step 2). In the future, grant agreements will include an allowance for facilities planning and design. Grantees that currently have a Step 1 or Step 2 grant will be able to complete the work included in their scope of work using the present system of grant payments. However, the 1981 Amendments prohibit new

grants exclusively for facilities planning or design. Those activities will be completed by potential grantees before they apply for a grant to build their projects.

Appendix M contains the procedures to determine the amount of advance of allowance and of the estimated and final allowances. The allowance tables in Appendix M are based on the percentage of building costs that have historically been attributable to facilities planning and design. No reimbursement for facility planning or design activities, beyond the allowance, will be made.

The allowance for a project is a single sum based on the actual total allowable building cost. Allowances are not auditable and the activities they cover are not subject to EPA requirements for procurement under assistance agreements (40 CFR Part 33). Likewise, it is noted that EPA's procurement requirements do not apply to expenses for services incurred during Step 1 and Step 2. However, the Congress did not intend to reduce the opportunities afforded minority and women's business enterprises to compete for contracts associated with construction of publicly owned treatment works, therefore, it is EPA policy to encourage recipients to adopt procurement procedures for all activities of their construction program that, at a minimum, include the affirmative Steps in 40 CFR 33.240. EPA will ask for information from grant applicants about the level of minority and women's business enterprise participation achieved during planning and design activities in order to meet our obligation to report MBE and WBE participation in the construction grants program.

The device in the law is not a cost reimbursement, but an allowance. EPA understands that, in practice, any savings realized from the allowance will be available to each community for general public purposes. The Agency expects that these funds will be used to defray unreimbursed expenses associated with building the facility. Due to the unrestricted nature of the allowance, however, EPA will not audit the use of these funds.

One point that must be made clear, to both consulting engineers and grantees, is that the allowance for facilities planning and design should never be used as a compensation schedule or a fee schedule. Many factors, including demonstrated competence, experience and qualifications of the firm involved, are important factors in determining the appropriate compensation for engineering services. To reinforce this fact, the following statement was included in the final construction grant regulations. "The allowance does not reimburse for cost incurred. Accordingly, the Allowance Tables shall not be used to determine the compensation for facilities planning or design services. The compensation for facilities planning or services should be based upon the nature, scope, and complexity of the services required by the community."

o Project Cost - Due to the time interval between completion of your facilities plan, the design of your project, and the application for grant assistance, the estimated costs of your project and your local share may have increased. This is especially true recognizing the reduced Federal grant share after October 1, 1984. You should periodically review and revise the

local cost share of your project and compare these cost estimates with your community's current financial status to ensure that the project is realistic in terms of the financial capability of your community.

o Documentation of Costs - The Step 3 phase of your project is subject to Federal audit which, in turn, requires documentation of project costs in order for these costs to remain allowable for grant participation. For example, administrative costs for municipal employees must be substantiated by time sheets. Other costs should be substantiated by invoices, and in the case of construction change orders, be supported by written minutes of negotiation. While only Step 3 grant costs are subject to Federal audit, it is good practice to develop and maintain an accounting and filing system which provides an audit trail from project initiation through completion.

o Operation, Maintenance and Replacement Costs - As project costs are periodically revised and as a plan of operation is developed, you should carefully review the operation, maintenance and replacement cost estimates. Historically, too many projects have underestimated these costs only to find later that they are higher than anticipated. Your reviewing agency may be able to provide you with experiences from other municipalities that will help guide you as to the reasonableness of your costs.

o Environmental Review - The environmental review is to be completed before submission of your application. You should work with the State and EPA as early as possible

in the facilities planning process to determine the appropriateness of a Categorical Exclusion, the scope of your Environmental Information Document, or the necessity for an Environmental Impact Statement. You may request in writing that EPA make a formal determination with regard to its environmental review (Section 3.2).

Compliance

The Clean Water Act requires all publicly owned treatment works to meet the statutory compliance deadlines and to achieve the water quality objectives of the Act, whether or not you receive Federal funds. This requirement is reflected in the National Municipal Policy (Appendix D).

PART I. FACILITIES PLANNING

CHAPTER 1

FACILITIES PLANNING-- PURPOSE AND CONTENT

1.0

AMENDMENTS OF 1981

The Municipal Wastewater Treat- ment Construction

Grants Amendments of 1981 (PL 97-117), highlighted in Appendix L, changed the Clean Water Act (CWA) with regard to facilities planning (Step 1) and design (Step 2). While separate grants for facilities planning and design will no longer be made, an allowance will be included in the grant to help defray these expenses. Small communities may be eligible to receive an advance of the allowance for planning and/or design of their project if their State reviewing agency determines that they would otherwise be unable to prepare a request, i.e., facilities plan and design, to qualify for grant assistance. State reviewing agencies may provide up to 10 percent of their annual construction grant funding allotment for advances and will determine the terms and conditions for seeking repayment if a construction grant is not made at some point in the future.

Those communities that received a facilities planning or design grant prior to December 29, 1981, will complete their project according to the existing grant agreement and any special conditions attached to it. At the completion of these projects, municipalities will then follow the current grant application process.

During facilities planning you should anticipate the provisions of the 1981

amendments that become effective on October 1, 1984. These provisions are discussed throughout this book and include Federal grant share, reserve capacity and eligible project categories.

The impact of these provisions will be reflected in the local share of project costs to be borne by your municipality. It requires that you carefully prepare your project schedule, periodically revise it as necessary, and remain in close contact with your reviewing agency in order to anticipate the timing of your grant.

Eliminating separate Step 1 and Step 2 grants will allow your community to move more rapidly in the preparation of your grant application. This may result in reduced project costs due to the impacts of inflation on construction. In addition, you no longer have to prepare three separate applications. These changes are intended to enable you to build your project sooner, resulting in earlier water pollution abatement.

You should note that the technical requirements for facilities planning and project design have not changed significantly under the 1981 amendments (exceptions include allowable costs for reserve capacity, I/I analysis, value engineering, 301(h) waivers). You still will need to complete a facilities plan and meet other various Federal requirements. Therefore, you are encouraged to follow the guidance in this book and seek review by your reviewing agency of your facilities plan both during and after its completion. It is also recommended that you request review of your project design at intermediate points and at completion to ensure compliance with both State and Federal

requirements. By maintaining contact with your project reviewer and ensuring that your project meets all of the applicable requirements, you will avoid potential delays at the time of grant application.

1.1

FACILITIES PLANNING-- PURPOSE AND DEFINITION

The facilities planning process is the first major step leading to award of grant assistance.

Facilities planning consists of those necessary plans and studies that directly relate to treatment works needed to comply with the enforceable requirements of the Act. Facilities planning will substantiate the need for the proposed facilities. Through a systematic evaluation of alternatives that are feasible in light of unique demographic, topographic, hydrologic and institutional characteristics of the area, it will demonstrate, except for innovative and alternative technology (Section 6.7.4), that the selected alternative is cost effective (i.e., is the most economical means of meeting the applicable effluent, water quality and public health requirements over the design life of the facility while recognizing environmental and other nonmonetary considerations). The facilities plan will also demonstrate that the selected alternative is implementable from legal, institutional, financial, and management standpoints. A flow chart (Figure 3) illustrates the principal stages of the facilities planning process. Each major stage corresponds to a chapter in Part I of this book.

The facilities plan is your record of why the selected treatment system best meets your needs. The selection of

the best wastewater and sludge management alternative is the most important outcome of the facilities planning process. The plan, therefore, should present a clear picture of how this decision was reached and also enable your project reviewer to assure compliance with applicable regulations.

1.2

CONTENTS OF FACILITIES PLAN

Include the following in your facilities plan:

- o A description of both the proposed treatment works and the complete waste treatment system of which it is a part (Section 5.2 and Section 8);

- o A description of the Best Practicable Wastewater Treatment Technology (BPWTT) (Section 6.7);

- o A cost-effectiveness analysis of the feasible conventional, innovative and alternative wastewater treatment works, processes and techniques capable of meeting the applicable effluent, water quality and public health requirements over the design life of the facility while recognizing environmental and other nonmonetary considerations. The monetary costs to be considered must include the present worth or equivalent annual value of all capital costs and operation and maintenance costs. The population forecasting in the facilities plan analysis shall be consistent with the current Needs Survey. A cost-effectiveness analysis must include:

- An evaluation of alternative flow reduction methods (Section 5.5.3);

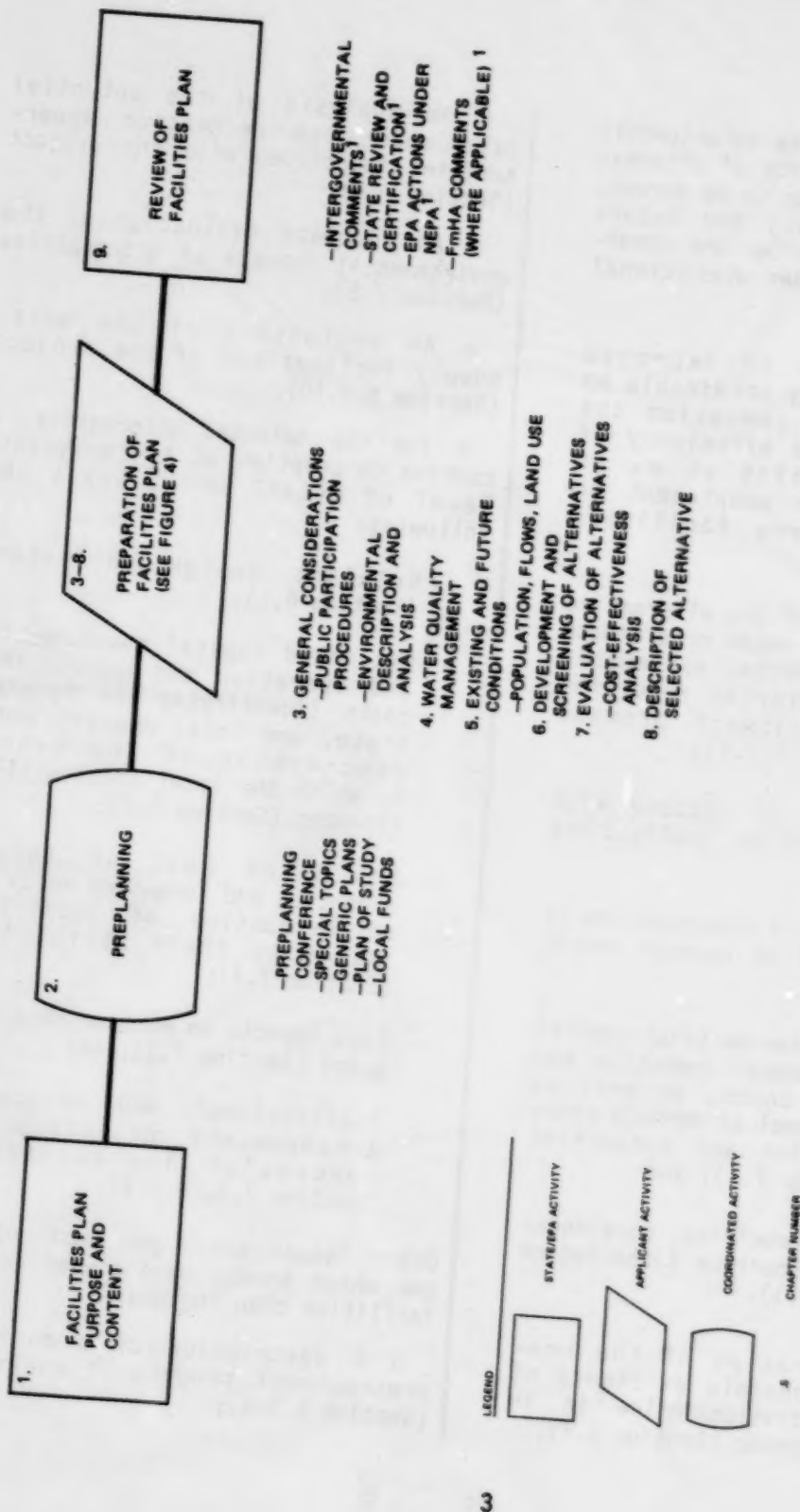


Figure 3 Procedural Flow Chart for Facilities Planning for Wastewater Treatment and Sludge Management

- A description of the relationship between the capacity of alternatives and the needs to be served, including capacity for future growth expected after the treatment works becomes operational (Section 5.5.2);
 - An evaluation of improved effluent quality attainable by upgrading the operation and maintenance and efficiency of existing facilities as an alternative or supplement to building of new facilities (Section 6.1);
 - An evaluation of the alternative methods for the reuse or ultimate disposal of treated wastewater and sludge material resulting from the treatment process (Section 6.7.1, 6.7.2);
 - Consideration of systems with revenue generating applications (Section 6.7);
 - An evaluation of opportunities to reduce use of or recover energy (Section 6.7);
 - Cost information on total capital costs, and annual operation and maintenance costs, as well as estimated annual or monthly costs to residential and industrial users (Section 7.1); and
 - For small communities, consideration of appropriate technologies (Section 7.3.1).
 - o A demonstration of the non-existence or possible existence of excessive infiltration/inflow in an existing sewer system (Section 5.4);
 - o An analysis of the potential open space and recreation opportunities associated with the project (Section 7.9);
 - o An adequate evaluation of the environmental impacts of alternatives (Section 7.5);
 - o An evaluation of the water supply implications of the project (Section 3.2.10);
 - o For the selected alternative, a concise description at an appropriate level of detail of at least the following:
 - Relevant design parameters (Section 8.1);
 - Estimated capital construction and operation and maintenance costs (identifying the Federal, State, and local shares) and a description of the manner in which the local costs will be financed (Section 8.2);
 - Estimated cost of future expansion and long-term needs for reconstruction of facilities following their useful life (Section 7.4);
 - Cost impacts on wastewater system users (Section 7.3); and
 - Institutional and management arrangements necessary for successful implementation (Section 7.8, 8.5.1).
- Other issues which you must address and which should be included in your facilities plan include:
- o A description of a municipal pretreatment program if applicable (Section 8.5.4);

o A demonstration that the selected alternative is consistent with any applicable approved water quality management (WQM) plan (Section 4.0);

o A demonstration that the municipality has the legal, institutional, managerial and financial capability to ensure adequate construction and operation and maintenance of the treatment works throughout the system's service area including the ability to comply with the regulations (40 CFR 30.301 and 30.600-2); this latter section of the regulations not only addresses financial and management capabilities but includes compliance with the Civil Rights Act of 1964, equal employment opportunity and labor laws, etc. (Sections 8.5 and 13.2);

o A summary of public participation in the development of the facilities plan (Section 7.11).

If any of the above information has been developed separately from the facilities plan, it may be incorporated by reference rather than duplicated, although documentation of each item is necessary in your completed plan.

Normally, facilities planning for the entire project area is completed before design or before Step 3 grant assistance is awarded. There are, however, circumstances where grant assistance may be awarded before review and certification of a facilities plan by the State agency. In these cases, grant assistance may be awarded if: (1) the Regional Administrator determines that applicable statutory and regulatory requirements (including the environmental review under 40 CFR Part 6)

have been met; (2) the facilities planning related to the project has been substantially completed; (3) the portion of the facility plan for which grant assistance is awarded will not be significantly affected by the completion of the facilities plan and will be a component part of the completed waste treatment system; and (4) you agree to complete the facilities plan on a schedule acceptable to your reviewing agency. The schedule will be inserted as a special condition of the grant agreement.

In addition to these four conditions which are applicable to projects requesting grant assistance before completion of facilities planning, other limitations (Section 13.2) are imposed if the project is also a phased or segmented project.

CHAPTER 2

PREPLANNING

2.0

PREPLANNING CONFERENCE

Chapter 1 discusses the purpose and content of facilities plans as well as the 1981 amendments to the CWA. Preplanning should precede the preparation of a facilities plan in order to assure that costs, schedules and scope of work performed during facilities planning are adequate to satisfy regulatory requirements and are commensurate with complexity of the water pollution problems. Preplanning assistance, including a preplanning conference with your reviewing agency, is strongly encouraged. In some cases, the recommended conference will be held after facilities planning has begun but before it has progressed substantially.

At the State's or your request, you may wish to schedule a preplanning conference at which you, other municipal officials and possibly your A/E will meet with the project reviewer to discuss various elements of the construction grants program. If supplemental grant assistance from the Farmers Home Administration (Appendix F) is being considered also, it is recommended that a representative from that agency be present at the conference. While a conference may not be possible for every project, the project reviewer will provide you with assistance and explanations before or soon after you initiate activities leading up to grant assistance.

At the conference, requirements for grant assistance and issues relevant

or unique to your project will be reviewed and addressed. For example:

- o For small communities, an advance of funds for planning and design (Appendix B to 40 CFR Part 35, Subpart I) and the use of a simplified generic facilities plan;

- o For sewered communities with a population of 10,000 or less, consideration of appropriate low cost technologies such as facultative ponds, trickling filters, oxidation ditches, or overland flow land treatment; for unsewered portions of communities of 10,000 or less, consideration of onsite systems; and

- o Estimated charges to customers and the impact of those charges in terms of annual costs per household (Section 7.3) as well as your community's financial capability and arrangements for financing the local share of project costs (Section 12.7).

In addition, you may request an early determination of the scope of the environmental review including eligibility for Categorical Exclusion, scope of an Environmental Information Document (EID), or concurrent development of an Environmental Impact Statement (EIS) (Sections 3.2.13, 9.2.2).

2.1

ELIGIBLE APPLICANT

A municipality or State will be eligible for grant assistance if it meets the following requirements at the time of application:

- o Is a public body created under State law or an Indian tribe or an authorized tribal organization, having

jurisdiction for the treatment, transport or disposal of domestic wastewater in a particular geographic area;

o Is a designated and approved management agency authorized in a WQM plan; and

o Demonstrates the legal authority and financial capability to build and manage the resulting treatment works.

If two or more political jurisdictions are included in the facilities planning area, the eventual grant applicant may be a joint authority that represents all the jurisdictions or a designated lead agency. In these cases, carrying out the approved facilities plan will be based on written intermunicipal service agreement between the public bodies. For projects involving more than one municipality, participants should meet to discuss their interrelationships, resolve differences, and set the ground rules for working together before the application process begins.

2.2

PLAN OF STUDY While not required, it may be very helpful for you to prepare a plan of study for your project. A plan of study can help ensure that you, your A/E firm and the reviewing agency have a common understanding of the scope, schedule and costs of preparing the facilities plan. Ideally, the plan of study should be prepared prior to the preplanning conference and serve as the basis for discussion. Suggested items to be included in the plan of study include a description of the work tasks to be performed resulting in the completion of an approvable

facilities plan, a schedule for completion of work tasks and outputs, and an estimate of manhours and costs to complete work tasks.

2.3

INTERGOVERNMENTAL COORDINATION

At an early stage in development of your project, you are encouraged to obtain comments that will indicate the degree of concern other agencies have in your project. You should review any comments received to identify sensitive issues for evaluation in your facilities plan. In addition, your State may have established procedures under EO 12372, which replace OMB Circular A-95, for consulting between State and local officials and Federal agencies concerning activities under Federal programs. In this case, certification that these procedures have been complied with must accompany your application. EPA regulations also specify the implementation of the Agency's intergovernmental review responsibilities. (40 CFR Part 29).

2.4

PROCUREMENT OF SERVICES

Most municipalities find it necessary to procure professional services (e.g., A/E firm) to assist them in the preparation of a facilities plan and project design. Step 3 grant assistance may include as an allowable cost, an allowance for facilities planning and project design. Because EPA will not reimburse you for your actual costs, but rather provides an allowance, you need not comply with the provisions of EPA's procurement regulations (40 CFR Part 33) for procuring these services unless you intend to use the same firm for engineering services during building as you use for

planning or design. In addition, you will need to comply with the provisions during the building of the project or certify that your own procurement system, at a minimum, satisfies the requirements of the regulations (40 CFR Part 33).

The procurement of services during the early stages of your project is solely your responsibility. EPA suggests that you give careful consideration to the procurement procedures you will use and, lacking your own system, consider using 40 CFR Part 33. A discussion of procurement is included in Chapter 16.

EPA encourages recipients to adopt procurement procedures for all activities of their construction program that include affirmative steps in order to maximize MBE/WBE participation (40 CFR 33.240). EPA will request information from grant applicants regarding the level of minority and women's enterprise participation achieved during planning and design activities in order to meet EPA's obligation to report MBE and WBE participation in the construction grants program.

CHAPTER 3

FACILITIES PLANNING CONSIDERATIONS

3.0

GENERAL PREPARATION PROCEDURES

Figure 4 is a flow chart that illustrates the preparation of a facilities plan. The chart relates Chapters 4 through 8 of this book to the overall facilities planning process illustrated by Figure 3 in Chapter 1. Figure 4 graphically indicates how public participation and environmental evaluation are integrated throughout the development of the facilities plan.

To reduce duplication in this book, public participation and environmental impact considerations are discussed in the balance of this chapter. It should be noted, however, that the environmental discussions represent a summary of other Federal laws and policies of EPA, which in the interest of brevity are not complete descriptions of all of the procedures and considerations that must be taken into account. Rather, the descriptions are intended to alert you to the major areas of concern as your project is developed and provide a basis for more detailed discussions with your project reviewer for those areas likely to require a thorough evaluation. In later chapters reference is made to the public participation and environmental issues discussed in this chapter with the intent that you will review them as necessary.

Maintaining the interrelationship among evaluation of alternatives, environmental evaluation and public participation will ensure that issues critical to the identification

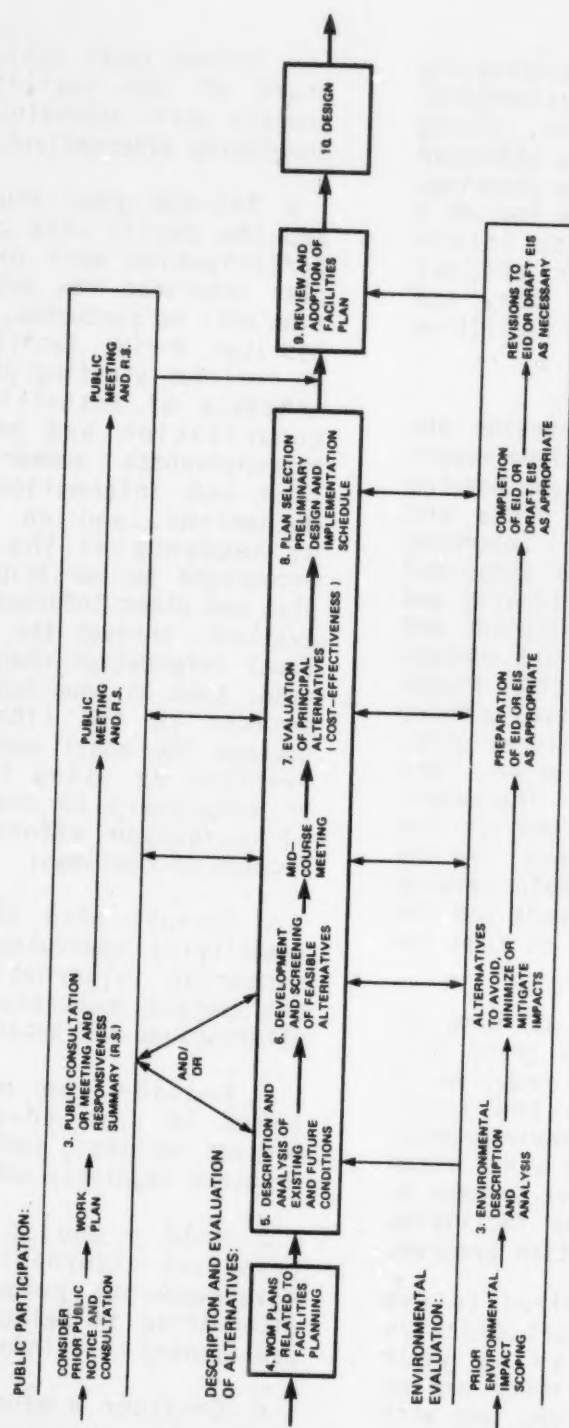


Figure 4 General Facilities Plan Preparation Procedures

of the most cost-effective alternative such as financial and environmental impacts, treatment processes, siting of facilities, etc., will be addressed thoroughly during facilities planning. Your schedule of work should include a periodic review of these inter-relationships with your project reviewer to ensure that they are maintained throughout the facilities planning process.

3.1

PUBLIC PARTICIPATION Open discussion and citizen involvement can help you develop plans that reflect the needs and values of your community. Informing the public early about the scope and nature of the facilities planning and involving them during development and evaluation of alternatives can surface important facts and identify issues early, so they can be resolved without unnecessary delay or additional cost. Even more important, a better, less costly project may result. The understanding gained for the project and its costs during meetings and by reading fact sheets can help develop citizen support for the bonds and the user charge system needed to fund the project.

To be able to certify at time of application for a Step 3 grant that the public participation required in connection with State and local statutes and with the environmental review process under Part 6 has taken place, it is most effective to make it an integral part of your facilities planning public participation program.

While you are not required to use EPA's Part 25 public participation regulations in preparing your facilities plan because there are no Federal funds involved, you may wish to review Part 25 for suggestions for your program such as:

- o Inform local residents near the start of the facilities planning process when assessing problems and developing alternatives;

- o Provide your project reviewer and the public with a brief public participation work plan. The work plan describes how public participation will be conducted, encouraged and assisted during facilities planning. It includes staffing plans, a budget, schedule of activities, points of consultation and preparation of responsiveness summaries, consultation and information distribution mechanisms, and an identification of segments of the public to be encouraged to participate. The work plan and other information can be made available through the use of existing local information channels, if widely read, such as town bulletin boards or notices in the library. Further savings for small communities can be realized by using local officials or volunteers to coordinate public participation efforts and prepare records of meetings;

- o Consult with the public when identifying wastewater problems and screening alternative solutions, but before selection of principal alternatives for detailed evaluation;

- o Provide the public with at least 30 days advance notice of project meetings, such as town council or other regularly scheduled meetings;

- o Hold a public meeting after principal alternatives are largely developed but before the proposed alternative is selected, and present preliminary cost information;

- o Consider a midcourse review of your public participation program with your project reviewer;

o Hold at least one public meeting before adopting the facilities plan. You should indicate in a public notice that the recommendations of the facilities plan, including financial information, will be discussed. Specify where the facilities plan and other pertinent information is available for public review at least 30 days prior to the meeting;

o Allow the public to make written and oral statements; a question and answer session should be provided if possible. Prepare a complete record of the meeting and prepare a final responsiveness summary for inclusion in the facilities plan;

o Prepare and distribute a responsiveness summary after each public meeting. A responsiveness summary should address significant public comments, both adverse and beneficial, and the justification for rejection or incorporation of the comments into the plan; and

o Present at the meeting a brief summary of the facilities plan including the cost information developed in Chapter 7.

3.2

ENVIRONMENTAL REVIEW PROCESS Under the National Environmental Policy Act (NEPA), an environmental impact statement (EIS) must be prepared by a Federal agency where a determination is made that a proposed action (building a wastewater treatment works in this case) will have a significant adverse impact on the quality of the human environment. Grant assisted projects are subject to NEPA and EPA's implementing regulations (40 CFR Part 6). An environmental review, required by Part 6, must be completed before

submission of any Step 2+3 or Step 3 grant application. The potential applicant should work with the State and EPA as early as possible in the facilities planning process to determine if the project qualifies for a categorical exclusion from Part 6 requirements, or whether a finding of no significant impact, or an EIS is required.

To make this determination, EPA conducts an environmental review which you may request take place at any time from the preplanning stage to award of grant assistance. In the early preplanning stages, determination of a categorical exclusion from substantive environmental analysis and review, incorporated into EPA's regulations in 1982, is intended to apply to projects which are small scale, minor and routine. Such projects may include replacement, minor rehabilitation, minor expansion or minor upgrading of facilities which should not result in increasing the overall design capacity of the treatment works nor the pipe size of interceptors or collection sewers. Where a categorical exclusion is granted by EPA, an environmental information document (described below) need not be prepared. State requirements, however, may still apply.

The decision to grant a categorical exclusion is made by EPA based upon information supplied by you, your State reviewing agency, and any other source of information. If you feel your project meets the criteria for categorical exclusion, you should contact your project reviewer for instructions on how to proceed.

Lacking approval of a categorical exclusion, you are required to prepare an environmental information

document (EID) as an integral part of your facilities plan. The EID is used by you in evaluating the environmental impacts, both beneficial and adverse, of alternative wastewater collection, treatment, and sludge management systems as well as the selected plan. In addition, the EID is used by your State agency in evaluating your project and by EPA in determining whether to prepare an EIS or, in the alternative, a finding of no significant impact (FNSI).

Where it is necessary for you to prepare an EID, it is recommended that you discuss the scope of the EID with your project reviewer at a preplanning conference (Section 2.0). In this way you will be able to reach agreement on the issues that need to be addressed and focus your efforts on them. Assuming that your EID adequately addresses these issues and proposes realistic measures to mitigate adverse impacts, EPA will generally be able to issue a FNSI. The public has 30 days to comment on the FNSI, after which EPA either finalizes its decision not to prepare an EIS or makes a determination to prepare an EIS.

It is in your best interests to (1) seek a categorical exclusion where applicable, (2) meet with your project reviewer to define the scope of the EID, (3) address and resolve the significant environmental issues in the EID in concert with your public participation program, and (4) formally request an environmental review by your State agency and EPA prior to formal adoption of the facilities plan. The balance of this chapter discusses the contents of an EID, special environmental topics which, if applicable, must be addressed in the EID, and the joint EID/EIS procedures where appropriate (Section 9.2.2).

3.2.1

ENVIRONMENTAL INFORMATION DOCUMENT

To facilitate the environmental review process and the selection of an environmentally sound project, integrate your environmental analyses throughout your facilities plan. Ideally, a separate chapter within the facilities plan should summarize the environmental issues and discuss measures to minimize adverse impacts. The EID will present information which describes:

- o The proposed action, including purpose and need;
- o The existing environment in the planning area as related to the evaluation of the alternatives and selection of the proposed project. The existing environmental conditions to be described in the facilities plan are listed in Section 5.1;
- o The future environment without the project, i.e., the "no action" alternative and its effects on future environmental conditions in the planning area (Section 5.6);
- o The development and evaluation of alternatives as described further in Chapters 6 and 7. Evaluate impacts on the environment as beneficial or adverse, direct or indirect, and long-term or short-term; and
- o The environmental impacts of the selected alternative as described in Section 8.4 with special attention to unavoidable impacts, trade-offs, commitments of resources, and measures to mitigate adverse effects;
- o Sources of information used to describe existing and future

conditions. Consult with regional, State and Federal agencies as appropriate early in the planning process for assistance in locating the sources of information.

Environmental resources in your planning area may be identified relatively inexpensively by stereoscopic aerial photographic analysis, obtaining appropriate maps, documents, and by:

- o Conducting literature searches, interviews and limited field visits for familiarization with the area and identification of areas likely to contain sensitive resources (floodplains, wetlands, significant agricultural lands, endangered or threatened species habitat, cultural properties, parks, etc.);

- o Using field surveys for positive identification and verification in areas directly impacted by the principal alternatives;

- o Conducting intensive original field research in areas directly impacted and when necessary to determine the significance of the resource, the nature and extent of the impacts and to develop mitigative measures.

EPA's decision either to issue a FNSI or prepare an EIS will be based on an environmental review that will include an analysis of the information you provide in the facilities plan. In addition, EPA must comply with procedures of other environmental laws and executive orders. Following are special topics which require you or EPA to consult with other agencies or which describe procedures designed to avoid delays during the preparation and review of

your facilities plan. Adverse impacts in any of these environmentally sensitive areas may result in the need for an EIS and the imposition of special conditions in your grant agreement.

An evaluation by your project reviewer of your responses to issues raised during public participation and your integration of environmental considerations into the facilities plan is strongly recommended before initiating project design. For further assistance in evaluating environmental impacts, consult your project reviewer and the EPA publication "Environmental Assessment of Construction Grants Projects" (FRD-5).

3.2.2

HISTORICAL AND ARCHAEOLOGICAL SITES

The National
Historic Preserva-
tion Act and
Executive Order

11593 require procedures for consultation and commentary by the Advisory Council on Historic Preservation on EPA grant actions that will affect a property listed or eligible for listing on the National Register of Historic Places. EPA guidance memorandum of March 27, 1984, for compliance with Section 106 of the National Historic Preservation Act should be utilized. This guidance provides for integration of the cultural resource review process into the NEPA review process for the Construction Grants program. As early as possible in the planning process, you should contact your project reviewer for advice on specific procedures for initiating consultation with the State Historic Preservation Office (SHPO). The SHPO will provide information about properties listed or eligible for listing on the National

Register of Historic Places and recommend the appropriate level of cultural resource survey.

In general, your plan should avoid direct and indirect impact by the proposed facilities on identified properties or potentially sensitive areas. Any unavoidable direct impact will require an evaluation of the identified historic or cultural property, additional detailed information about the property, an evaluation of the potential effect the project may have on the property (36 CFR 800.3) and any proposed measures to minimize the effects. At a minimum, adequate data on the property's boundary, integrity and its significance will be necessary to determine its eligibility for listing on the National Register (36 CFR Part 63).

Cultural resource surveys should be initiated early in the planning process and completed as soon as practical, but before award of grant assistance.

3.2.3
FLOODPLAINS, WETLANDS, AND FLOOD INSURANCE
EPA's Policy Statement of Procedures for Floodplain Management and Wetlands Protection (Appendix A to Part 6) requires EPA to prepare an assessment for any action under its programs that will affect a floodplain or wetland. In addition, States may also have special requirements for assessing impacts upon these sensitive areas. Information is generally readily available to identify 100-year floodplains and wetlands greater than 5 acres, however, the program requirements are not limited to areas of that size. Floodplains and flood hazard areas are shown on maps

prepared by the Federal Emergency Management Agency (FEMA). Wetlands may be identified by maps available from the U.S. Fish and Wildlife Service (USFWS), the U.S. Army Corps of Engineers (COE) or the Soil Conservation Service (SCS).

You should develop or modify alternatives to avoid direct or indirect impacts on wetlands and floodplains wherever possible. EPA will not fund costs for treatment works capacity for new developments on environmentally sensitive land, such as floodplains or wetlands.

If your project will affect wetlands, floodplains, impact navigable waters or cause the discharge of dredge or fill materials, consult with FEMA, USFWS, and EPA, and contact the COE to determine whether a permit for discharge of dredge or fill material will be needed. If a permit is necessary, the COE should identify alternative locations to be evaluated and which environmental factors should be addressed.

If the selected alternative proposes construction or purchase of structures in a flood hazard area, all affected communities may be required to participate in the National Flood Insurance Program of the Federal Emergency Management Agency (FEMA). FEMA may require you to obtain and maintain an adequate flood insurance policy for the Structures. You must satisfy these flood insurance requirements in order for you to receive Step 3 grant assistance. Early coordination among affected communities will help avoid delays in grant award.

The Coastal Barrier Resources Act (PL 97-348 enacted October 18, 1982)

restricts the award of grants that will have the effect of encouraging development within the Coastal Barrier Resources system. The system is made up of, for example, barrier islands and related areas containing few manmade structures. The areas in the system are shown on maps available from your State reviewing agency.

In addition to restricting grant awards for funding construction of facilities within the system, the Act prohibits the award of a grant for capacity in a treatment plant or conveyance outside the delineated areas which would have the effect of encouraging development in the delineated areas. However, construction grant funds may be awarded after consultation with the Secretary of the Interior, for the replacement or upgrading, without expansion, of publicly owned or publicly operated sewage treatment structures or facilities, if the projects are either an essential link in a larger network or system or are consistent with the purposes of the Act.

3.2.4

AGRICULTURAL LANDS

In your facilities plan, evaluate the direct and indirect impacts of your project on significant agricultural lands. It is EPA policy and the Farmland Protection Policy Act (PL 97-98) aim to protect these lands from irreversible loss as an environmental or essential food production resource by locating facilities on agricultural land only when necessary to serve existing residential users (Section 6.5). Identify in your facilities plan significant agricultural lands in the planning area by consulting with the local office of the Soil Conservation Service, U.S. Department

of Agriculture (USDA). Environmentally significant agricultural lands are defined by EPA and USDA to include the following important farmlands:

- o Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land, but not developed land or under water). It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed according to acceptable farming methods; or

- o Land that is used for the production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality and/or high yields of a specific crop when treated and managed according to acceptable farming methods.

Discuss additional farmlands of State, local and environmental importance with your project reviewer. Evaluate alternatives that will avoid or minimize adverse impacts on significant agricultural lands. Examples of mitigation measures are described in Sections 3.2.12, 11.1.7. Interceptors and collection systems should be located on significant agricultural land only if necessary to eliminate existing discharges or serve existing residences.

3.2.5

COASTAL ZONE MANAGEMENT

The Coastal Zone Management Act requires that all Federal activities be consistent with

approved State coastal zone management programs to the maximum extent practicable. If your project is located in the coastal zone of a State with an approved coastal management plan, a consistency certification will need to be submitted to the appropriate agency. Consult with the Office of Coastal Zone Management, U.S. Department of Commerce or the appropriate State agency for details. In developing and evaluating alternatives insure to the maximum extent practicable that they are consistent with any approved State coastal management programs applicable to the planning area.

3.2.6

WILD AND SCENIC RIVERS To comply with the Wild and Scenic Rivers Act, EPA will determine from the Secretary of the Interior or Agriculture that the project will not directly and adversely impact any wild, scenic, or recreational river area. During facilities planning identify any rivers listed in the Nationwide Rivers Inventory or any designated rivers in the planning area through consultation with the appropriate State agency and the National Park Service, Department of the Interior. Develop and evaluate project alternatives to avoid or mitigate adverse impacts on these rivers.

3.2.7

FISH AND WILDLIFE PROTECTION The Fish and Wildlife Coordination Act requires that actions that will control or modify any natural streams or other body of water be undertaken so as to protect fish and wildlife resources and their habitats. During facilities planning consult the U.S. Fish and Wildlife

Service and appropriate State agency to find ways to prevent or lessen adverse impacts your project could have on fish, wildlife or their habitats.

Wastewater treatment facilities can attract birds that pose potential birdstrike hazards at nearby airports. If locating a wastewater treatment facility within 10,000 feet of an airport, you can coordinate the location with the regional Fish and Wildlife Service representative, and either regional Federal Aviation Administration officials for civilian airports or nearby military air base commanders.

3.2.8

ENDANGERED SPECIES PROTECTION Under the Endangered Species Act if a project affects a species of plant, wildlife or its critical habitat that the Federal government lists as endangered or threatened, EPA will consult the U.S. Fish and Wildlife Service, or National Marine Fisheries Service, to identify mitigative measures. Projects must avoid disrupting threatened or endangered species and their habitats, unless an exemption is granted under the Act. The facilities plan will suggest mitigative measures. Discuss with your project reviewer procedures for consulting with these agencies during facilities planning to determine whether the proposed planning area includes the habitats of listed species.

3.2.9

AIR QUALITY The Clean Air Act requires all Federally funded projects to conform to approved State Air Quality Implementation Plans (SIP). During

facilities planning evaluate the direct and indirect impacts of the alternatives on air quality. Consult with the State and regional agencies that monitor SIP compliance. Evaluate alternatives for compliance with the SIP and include measures to mitigate adverse impacts, if applicable.

3.2.10

WATER QUALITY AND QUANTITY

In your facilities plan, evaluate the capability of each alternative to meet applicable water quality criteria. For existing facilities, discharges to surface water must meet the conditions in your National Pollutant Discharge Elimination System (NPDES) permits (5.3 and 4.2). Include a copy of the permit or a list of the NPDES effluent limitations in the facilities plan. The impacts of your discharge on surface drinking water sources or the potential impacts upon estuaries or shellfish harvesting areas should be discussed with the appropriate State fish and public health agencies.

Wherever effluent from proposed facilities will percolate or discharge into groundwater, include in your facilities plan information and an analysis showing the impacts on the groundwater. Demonstrate in your plan that the effluent, when mixed with groundwater used as a public water supply, will comply with Federal, State and local environmental laws including the criteria established under 41 FR 6190 (February 11, 1976). Show that the facility to be built over the recharge zone of a designated sole or principal source aquifer and its effluent will not create an immediate or potential public health hazard.

In your facilities plan provide for the development of a program to periodically test water from existing potable wells in areas using land application of wastewater (including onsite treatment) in the project area. If there are a substantial number of onsite systems in the project area, additional monitoring of aquifers may also be necessary.

A facilities plan should identify and evaluate special problems and the potential for erosion and sedimentation resulting from construction. Special problems include long grades, steep slopes and highly erodable soils. Special construction techniques that deal with these problems should be addressed. For project sites where dewatering operations are expected during construction, consideration should be given to minimizing adverse effects from the discharge of silt-laden waters by means of filtration, sedimentation basins or similar construction methods.

You should include provisions in the facilities plan for supporting local and State shoreline stabilization efforts where appropriate.

The facilities plan should also address the water supply implications of the project and the indirect impacts on water quality caused by stormwater runoff. Other problems which may need to be addressed in your facilities plan include depletion of groundwater, saltwater intrusion, or land subsidence.

3.2.11

DIRECT AND INDIRECT IMPACTS

Assess in your facilities plan both direct (primary) and indirect (secondary) environmental

impacts of the principal and selected alternative. Direct impacts are caused by construction, operation or maintenance of the treatment works and may include for example:

- o Disruption of traffic, business or other daily activities during construction;

- o Damage to historical, archaeological, cultural or recreational areas during construction;

- o Disturbance of sensitive ecosystems such as wetlands and habitats of endangered or threatened species during construction;

- o Damage and pollution of surface waters due to erosion during construction;

- o Impacts on water quality from effluent discharge during operation;

- o Displacement of households, businesses, or services; and

- o Discharge of pollutants, noise or visual impacts.

Indirect impacts are caused by development made possible by the project and may include for example:

- o Changes in the rate, density, location or type of development, including residential, commercial or industrial; changes in the use of open space or other land;

- o Increased air, water, or noise pollution; increased solid waste production; or demand for potable water from the induced changes in population and land use;

- o Damage to sensitive ecosystems (wetlands, habitats of endangered species) and environmentally protected

areas (parks, historic and archaeological sites) that result from changes in population and land uses; and

- o Socioeconomic pressures for expansion of existing facilities (housing, schools, highways) and services (police, fire, medical emergency) resulting from induced changes in land use and population.

The environmental analysis should give special attention to indirect impacts to determine whether they will violate Federal, State or local laws.

3.2.12

MITIGATING ADVERSE IMPACTS

Earlier sections have discussed real or potential adverse environmental impacts. Wherever possible, avoid or minimize adverse impacts. Where adverse environmental impacts are unavoidable, discuss methods, both structural and nonstructural, to mitigate them. Such actions may include:

Structural:

- o Changes in design, size or location of facilities;

- o Rerouting of interceptors to avoid sensitive areas;

- o Staging or orderly extension of sewer service;

- o Screening for noise, aesthetic, and historic purposes;

- o Appropriate architectural treatment of publicly visible structures;

- o Systems for odor or aerosol control;

- o Cultural resource recovery including artifacts or important data.

Nonstructural:

- o Development and enforcement of sewer use regulations;

- o Protection of environmentally sensitive areas by local ordinance;

- o Modification of zoning ordinances, land use or development plans;

- o Stormwater runoff control ordinances; and

- o Water conservation programs to reduce wastewater flows.

Costs to mitigate the direct, adverse physical impacts resulting from the building of the treatment works are allowable for grant funding. Mitigative measures should be reasonable in cost and duration and should relate to the resource affected. Mitigation of indirect effects is best accomplished by nonstructural measures. Although you may select structural or nonstructural measures to mitigate indirect impacts, they are not grant eligible.

Grant assistance will not be awarded until your facilities plan provides for mitigation of adverse effects. However, a Step 2+3 or Step 3 grant may contain a grant condition requiring implementation of ineligible mitigation activities.

3.2.13

DETERMINING NEED FOR AN EIS Whether a decision to prepare an EIS is made before, during or after completion of the

facilities plan, it can be made only by EPA based on an environmental review (Section 9.2.2). EPA must prepare an EIS when any of the following conditions exist.

- o The treatment works (including the sludge management system) will induce significant changes in industrial, commercial, agricultural or residential land use concentrations or distributions. Factors that should be considered in determining if these changes are significant include: (1) vacant land subject to increased development pressure as a result of the treatment works; (2) population increases; (3) accelerated rate of change in population or population density; (4) potential for overloading sewage treatment works; (5) extent to which landowners may benefit from the areas subject to increased development; (6) nature of land use regulations in the affected area and their potential effects on development; and (7) deleterious changes in the availability or demand for energy.

- o The treatment works, including the collection system, will have significant adverse direct or indirect effects on wetlands or any major part of the treatment works will be located on wetlands.

- o The treatment works, including the collection system, will have significant adverse direct or indirect effects on a species identified on the Department of Interior's or a State's threatened and endangered species list or their critical habitats.

- o The treatment works, will cause direct or induced changes that significantly: (1) displace population; (2) alter the character of

an existing residential area; (3) adversely affect a floodplain or wetland; or (4) adversely affect significant amounts of important farmland or agricultural operations on this land as defined in EPA's policy to protect environmentally significant agricultural land.

- o The treatment works will have significant adverse direct or indirect effects on parklands, public lands, or areas of recognized scenic, recreational, archaeological or historic value.

- o The treatment works may have significant adverse direct or indirect effects through induced development on local ambient air quality or noise levels, surface or groundwater quantity or quality, or fish or wildlife and their natural habitats.

- o The treated effluent will continue being discharged into a body of water for which the present classification is too low to protect present or recent uses and for which the effluent will not be of sufficient quality or quantity to meet the standards of these uses.

- o The treated effluent will have a significant adverse impact on existing or potential sources of groundwater supply.

If an EIS appears to be necessary, based in part on review of your facilities plan, the applicable WQM plan, and public comments, you should discuss the possible joint preparation of an EIS with an EID (piggybacking) with your project reviewer.

A piggyback EIS/EID saves considerable time because the EIS is prepared concurrent with, rather than

subsequent to, the facilities plan. The consultant preparing the EIS can have no financial nor other interest in the outcome of the project.

If EPA determines that an EIS is needed, an expanded public participation program may be desirable.

CHAPTER 4

WATER QUALITY MANAGEMENT PLANS RELATED TO FACILITIES PLANNING

4.0

WATER QUALITY MANAGEMENT (WQM) PLANS

Sections 106,
205(j), 208, and 303
of the Clean Water
Act (CWA or Act) are

consolidated into an integrated water quality management (WQM) planning process. Through this process State and sub-State areawide agencies conduct broad-based WQM planning activities, such as developing wasteload allocations, setting water quality standards, or conducting nonpoint studies, designed to achieve the water quality goals of the Act. WQM activities are described in a State's WQM plan and annual work program. A water quality based approach will allow States to focus on their priority water areas and, when necessary, provide adequate protection beyond that achieved through technology-based control.

If technology-based controls are inadequate to protect desired uses, the water quality standards are the basis for determining: (1) best management practices (BMPs) needed to control nonpoint sources and/or (2) the need for more stringent treatment to control point sources.

Key outputs of the WQM process which affect facilities planning include: the WQM plan, development of nonpoint source control programs, the State priority system, the problem assessment and the State's water quality assessment report (305(b)) (Section 4.3). Once completed and approved, the State WQM plan becomes the foundation for other water pollution control activities. The

State, or the agency to which the State has delegated WQM planning functions, will review each facilities plan in its area for consistency with the approved WQM plan. After a waste treatment management agency has been designated in a WQM plan and the plan has been approved, construction grants funds may be awarded only to those designated agencies and for projects that are consistent with an approved WQM plan.

Facilities planning is based on the wasteload allocations, delineation of planning areas, and population projections in the current NEEDS study. If this information is not available in an approved WQM plan, the reviewing agency may only approve grant assistance if the State or areawide WQM agency's current year work program does not address the required information or the project is necessary to achieve the water quality goals of the Act. Facilities plans which are being prepared at the time of WQM plan approval should continue unless the WQM plan clearly justifies a change in the required treatment levels based on lower costs or significant environmental impacts.

4.1

STATE PRIORITY SYSTEM AND PROJECT PRIORITY LIST

The State's priority
system will result
in the State's
project priority
list, from which

projects are selected and certified by the State for EPA grant funding. The regulations require that the priority system at least include criteria for ranking projects based on the impairment of classified uses resulting from existing municipal discharges and the extent of surface or groundwater use restoration or public health improvement resulting

from the reduction in municipal pollution. The State may also include other criteria in its priority system for ranking projects such as the need to complete and make operational earlier grant assisted phases or segments (Section 13.5), or innovative or alternative technology projects (Sections 6.7.2 and 6.7.3).

4.2

WASTELOAD ALLOCATION/NPDES PERMIT

The minimum level of wastewater treatment that you must provide for your project to be eligible for EPA grant assistance is secondary treatment (exceptions may be granted under certain conditions for marine discharges). A technical definition of secondary treatment is given in EPA's regulations (40 CFR Part 133).

Under other sections of the CWA, States are required to establish water quality standards based on the designated uses of the receiving bodies of water. To meet these standards, States next select criteria for each of the pollutants to be discharged into the water bodies. The criteria are then used to determine the amount of each pollutant that a point source (e.g., outfall pipe from a sewage treatment plant) may discharge. The concentrations of the pollutants allowed to be discharged are determined through a wasteload allocation procedure that translates criteria into effluent limitations normally included in National Pollutant Discharge Elimination System (NPDES) permits. The wasteload allocation is the water quality analysis used to determine the level of treatment required by a specific project and is translated into an effluent limitation, i.e., the concentration of specific pollutants

that are permitted in the treated wastewater as it is discharged from the treatment plant.

Each point source of pollution, be it municipal or industrial, is required to have a NPDES permit (most States are authorized to issue the permits in which case the SPDES abbreviation is sometimes used). The discharge permit will include the effluent limitations, based on the wasteload allocation, as described above.

While secondary treatment is generally the minimum level required for EPA grant assistance, the designated water uses and the resulting water quality standards may require a higher level, called advanced treatment (AT) for a particular point source discharge. It is the State's responsibility to establish the designated water uses, water quality standards, criteria and wasteload allocations. In some areas, primarily urbanized, a local water quality management planning agency may make these determinations or provide assistance to the State in its determination.

Because the NPDES permit limits determine the level of treatment and consequently the cost of your project, it is of utmost importance that you receive a draft permit or other document from your State to establish the treatment levels needed. Recognize, however, that the wasteload allocation and individual treatment plant discharge limits may be different for different bodies of water and even within segments of the same river. In addition, be aware that if the permit limits for your existing site require advanced treatment, your project may be subject to additional review under the Agency's Advanced Treatment Policy (Section 9.2.1). (See Appendix A).

4.3

BIENNIAL WATER QUALITY REPORT

Your State's biennial report (305 b) to Congress, describing the quality of its waters and the status of its water quality program, may contain information which will be very helpful to you during the preparation of your facilities plan. In preparing this report your State may describe the water quality benefits resulting from the construction grants program such as pollutant reduction and preservation or enhancement of designated uses. Documentation of these benefits may be based in part on "before and after" water quality studies. The "before" study may be conducted before your project is operational as a part of the wasteload allocation study while the "after" study may be done after your project is operating. Analysis of the physical, chemical and biological water data from the studies can be used to verify previous model predictions, define water quality improvements resulting from your project, and assist in the planning and design of future projects. Appendix C contains technical guidance concerning "before and after" studies.

4.4

QUALITY ASSURANCE

In accordance with EPA General Regulations for Assistance Programs 40 CFR Part 30, you may be required to prepare a quality assurance program as specified in the regulation (40 CFR 30.302). You must develop a quality assurance program only if the conditions of your grant specifically requires you to collect environmentally related data. If a quality assurance program is required, you must submit a schedule for developing a quality assurance program within 30 days of assistance award.

You must not begin field or laboratory work until the award official has approved your project plan.

CHAPTER 5

EXISTING AND FUTURE CONDITIONS

5.0

PROJECT NEED AND PLANNING AREA IDENTIFICATION The wastewater treatment needs and facilities planning area for your community were identified during the Water Quality Management (WQM) planning process based in part on effluent limitations in your National Pollutant Discharge Elimination system (NPDES) permit (for existing facilities), applicable groundwater criteria and State requirements. You should review this information to ensure that the planning area is large enough to take advantage of economies of scale, efficiencies possible in regional planning, or decentralized or individual onsite systems. The planning area should also be sufficiently sized to ensure that the most cost-effective means of achieving the established water quality goals can be implemented, and that an adequate evaluation of environmental impacts can be made.

5.1

EXISTING ENVIRONMENT OF THE PLANNING AREA The facilities plan describes existing environmental conditions to provide a basis for analysis of alternatives and a determination of direct and indirect impacts of the proposed project. The description should include, if relevant:

- o Documented cases of public health problems related directly to water pollution;
- o Documented fish kills, septic system failures, well contamination, etc.;

- o Surface and groundwater hydrology (quantity, quality and uses);

- o Physiography, topography, geology and soils;

- o Precipitation, temperature, and prevailing winds;

- o Terrestrial and aquatic plants, animals and natural communities;

- o Air quality and noise;

- o Energy production and consumption;

- o Population and socioeconomic conditions;

- o Land use and development including percentages of area devoted to residential, industrial, commercial, and agricultural activities;

- o Historic and archaeological properties (cultural resources);

- o Public facilities and services; and

- o Related Federal, State, and other projects in the planning area.

Clearly identify environmentally sensitive features and areas to be avoided or protected. You should consult with Federal, State, and regional agencies and the public early in the planning process. Reference sources of information used in the description.

5.2

EXISTING WASTEWATER FLOWS AND TREATMENT SYSTEMS The facilities plan provides an inventory of existing wastewater characteristics and treatment facilities including areas served by onsite systems

and their interrelationships. The inventory indicates conditions that limit the number of possible alternatives, the severity of the pollution problems and should include:

- o Major influent characteristics (particularly toxic pollutants) and their variability as a basis for design criteria and pretreatment needs;

- o The location of industrial and municipal treatment plants, sludge management areas and facilities, pretreatment plants, pumping stations, and sewer service areas;

- o A description of these facilities, including design capacities, existing flows, characteristics of wastes, NPDES permits, and overload conditions;

- o Locations of significantly developed areas served by onsite or unconventional wastewater treatment systems;

- o A discussion and analysis of average, peak, dry and wet weather flows, including infiltration/inflow quantities;

- o Locations, flow rates, and other significant characteristics that would justify need for correction of bypasses and overflows;

- o The extent of any combined (storm and sanitary) sewer system;

- o A description of wastewater flow-reduction programs in effect; and

- o Documentation of needs to justify projects.

Documentation of existing needs is particularly important because of the elimination of grant eligibility for

reserve capacity beginning October 1, 1984. Existing needs are flows estimated to exist at time of grant award as described in an approved facility plan. Existing needs can also include anticipated flows from documented failing onsite systems if they are to be served now by the project (Section 6.3).

5.3

EFFLUENT

LIMITATIONS

Identify the effluent limitations for all discharges

as contained in NPDES permits (include identifying numbers) issued to existing facilities in the planning area. Effluent limitations are based on wasteload allocations developed by the State and will indicate the level of treatment required for each facility.

At a minimum, secondary treatment is required for all municipal point source discharges to surface waters. Secondary treatment is defined generally as 30-day average not to exceed 30 milligrams per liter (mg/l) each of biochemical oxygen demand and suspended solids. An amendment to the Clean Water Act (CWA) allows the use of biological treatment processes (deemed to be the equivalent of secondary treatment) such as oxidation ponds, lagoons, and ditches and trickling filters, provided the State certifies that water quality will not be adversely affected. EPA is currently reevaluating its definition of secondary treatment, based in part on provisions in the 1981 amendments to the CWA and comments on the proposed revised regulations. You should contact your project reviewer to ensure that you have are using the most recent regulation.

Higher levels of treatment (advanced treatment) may be required to meet State standards for water quality limited waters. It is EPA policy (Appendix A) that projects with incremental costs, for the advanced treatment portion, of over \$3 million will be reviewed by the EPA Administrator and projects with incremental costs under \$3 million will be reviewed by EPA regions or delegated States. An advanced treatment (AT) project can be approved only if the costs attributable to the more stringent levels of treatment are supported by a demonstration of significant improvement in water quality or mitigation of existing public health problems.

Give special consideration to land treatment systems (Section 6.7.2) as they are capable of providing very high levels of treatment (equivalent to or exceeding AT requirements) often at considerable savings and these systems qualify for increased grant funding as alternative technology. If your project may be subject to an AT or zero discharge requirement, it should be discussed with your project reviewer at the preplanning conference or as soon as possible thereafter.

For existing treatment plants your NPDES permits will contain appropriate effluent limitations. If new discharge locations are proposed during facilities planning, the State or EPA in some cases, will determine the effluent limitations for each new discharge (Section 6.0).

5.4

INFILTRATION AND INFLOW (I/I) The facilities plan shall demonstrate that each sewer system discharging into the treatment works is not, and will not be, subject to excessive infiltration or inflow.

"Infiltration" is water, other than wastewater, that enters a sewer system (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections or manholes. "Inflow" is water, other than wastewater, that enters a sewer system (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters or drainage. Excessive I/I is the quantity of I/I which can be economically eliminated from a sewer system as determined in a cost-effectiveness analysis that compares the costs for rehabilitation plus transporting and treating the remaining I/I to the total cost for transportation and treatment of all the I/I.

You may determine the I/I conditions in the sewer system by analyzing the preceding year's flow records from existing treatment plants and pump stations. For smaller systems where flow records may not be available, you should obtain flow data by conducting flow monitoring at a single point at the treatment plant during high groundwater periods and also during rainstorms. Where there is a likelihood of excessive I/I in a portion of the collection system, it is desirable to monitor that portion separately.

No further I/I analysis will be required if domestic wastewater plus nonexcessive infiltration does not exceed 120 gallons per capita per day (gpcd) during periods of high groundwater, and if the total daily

flow during a storm does not exceed 275 gpcd, and there are no operational problems, such as surcharges, bypasses or poor treatment performance, resulting from hydraulic overloading of the treatment works during storm events.

The flow rate of 120 gpcd for infiltration analysis contains two flow components: 70 gpcd of domestic wastewater base flow and 50 gpcd of nonexcessive infiltration. This is a national average based on the results of a needs survey of some 270 Standard Metropolitan Statistical Area cities:

Where the flow rate (domestic base flow plus infiltration based on the highest 7- to 14-day average) does not significantly exceed 120 gpcd (say in the range of 130 gpcd), you may request approval by the Regional Administrator to proceed with treatment works design without further analysis. The Federal funding of the treatment plant, however, will be limited to the cost of a project with a capacity of 120 gpcd and you must demonstrate that the proposed project is cost-effective and sufficient local funds are available to build and operate the entire treatment works.

When infiltration significantly exceeds 120 gpcd, perform further evaluations of the sewer system to determine the quantity of excessive I/I through a cost-effectiveness analysis. Under this second option, you will propose a sewer rehabilitation program to eliminate the portion of I/I that is excessive and size your treatment plant accordingly. A limited amount of grant assisted sewer rehabilitation may be undertaken on specific portions of the sewer system where shown to be cost effective. In addition, you will certify the I/I conditions in the

sewer system at the end of the first year of operations of a new treatment facility (Section 14.6). If the sewer rehabilitation program fails to remove the quantity of I/I as specified, you must prepare and resubmit a corrective program to the reviewing agency.

If infiltration or inflow is possibly excessive as defined above and further study indicates that it is not cost-effective to implement a sewer rehabilitation program, Federal funding will be for the cost-effective capacity even if it exceeds 120 gpcd.

If further study of the sewer system is not required by the Regional Administrator, the design flows are incorporated into the facilities plan and should include:

- o Total treatment plant flow, infiltration, and inflow;

- o Occurrence of rain events and level of groundwater during I/I study;

- o Nonexcessive I/I to be included in the design capacity of the proposed treatment works; and

- o A commitment to develop an effective sewer system operation and maintenance program (Section 5.4.1).

If the analysis under the second option is conducted, results of the I/I study are incorporated into the facilities plan and should include:

- o Total treatment plant flow, infiltration and inflow;

- o Estimated I/I from service laterals, collector lines, and interceptors;

- o Estimated cost for transport and treatment of total design flow, including I/I;

- o Estimated rehabilitation costs to eliminate I/I;

- o Occurrence of rain events and level of groundwater during I/I study;

- o Excessive I/I;

- o Nonexcessive I/I to be included in the design capacity of the proposed treatment works;

- o A proposed sewer system rehabilitation program for I/I cost-effective to remove; and

- o A commitment to develop an effective sewer system operation and maintenance program (Section 5.4.1).

You may perform sewer system evaluation studies and minor sewer rehabilitation prior to grant award (considered a preaward cost) when approved in advance by your reviewing agency provided the work is not a part of your municipality's normal O&M responsibilities. Where structural repairs are required for a large portion of the sewer system, those repairs will be made after grant award.

Although the regulatory requirements reflected in existing guidance on I/I analysis are no longer current, the technical information contained in MCD-19 may be useful in your analysis (see Appendix B of this book).

5.4.1

SEWER USE
ORDINANCE AND
SEWER
MAINTENANCE
PROGRAM

If a sewer rehabilitation program is prepared, it should address corrective actions to be included as

part of a sewer use ordinance (Section 12.3). The portion of the ordinance addressing I/I should contain a realistic program for: removal of excessive infiltration from sewer service laterals; removal of illegal connections from the sewer system (e.g., downspouts, storm or area drains); specify acceptable levels of infiltration for new sewers; and provide design details for new connections. The enactment and enforcement of the sewer use ordinance will help prevent overloading of the completed treatment works.

The sewer rehabilitation program should also contain a commitment to develop a comprehensive and effective sewer maintenance program. The maintenance program may be developed as part of your Step 3 grant activities (Section 8.5.3).

5.5

FUTURE
CONDITIONS

The planning period for wastewater projects shall be 20 years beyond the date the facilities are scheduled to begin operation. The 1981 amendments to the CWA, however, limit grant assistance for reserve capacity as follows:

(a) If EPA awarded a Step 3 grant for an interceptor segment before December 29, 1981, additional grants may be awarded for the remaining interceptor segments included in the facilities plan with reserve capacity, as planned, up to 40 years;

(b) Except as provided in (a), if EPA awards a grant for a Step 3 or Step 3 segment of a primary, secondary or AT facility or its interceptors included in a facilities plan before October 1, 1984, the grant for that Step 3

project or Step 3 segment, and any remaining segments, may include 20 years reserve capacity;

(c) Except as provided in (b), after September 30, 1984, no grant shall be made to provide reserve capacity. Grants shall be based on capacity necessary to serve existing needs (residential, commercial, industrial and other users) as determined on the date of Step 3 grant approval. Grants awarded after September 30, 1990, shall be limited to the existing needs on September 30, 1990.

All incremental costs for reserve capacity beyond that provided in (a) through (c) above will be paid at other than Federal expense.

While a 20 year planning period does not require that your project include capacity for a 20 year period, it does require that the project be the most cost-effective when compared to alternatives with capacity for a 20 year period.

The most cost-effective plan may provide for staging construction of operable parts of the facilities to meet changing conditions during the planning period. Your plan should consider not only constructing a facility now which satisfies your needs for the next 20 years recognizing the reserve capacity grant limitations, but also consider if it is more cost effective to construct a facility to satisfy your needs for 10 or 15 years and later construct additional facilities if and when they are required. The objective of evaluating staging of construction (Section 6.10) is to ensure that oversized facilities are not constructed thereby avoiding a potential financial burden or

possible adverse environmental effects resulting from the project, particularly if expected growth fails to occur.

5.5.1

POPULATION AND LAND USE PROJECTIONS

Wastewater treatment
needs and design
capacities for your
facilities planning

area will be determined by land use patterns, economic growth, and the resulting increase in population. The population estimates in your facilities planning area over the next 20 years are to be consistent with the projection for the State used in EPA's current "Needs Survey" (most current 1982) which estimates the present value of costs for construction of publicly owned wastewater treatment works to the year 2000. The survey also projects statewide populations based on information from the Bureau of Economic Analysis, Department of Commerce. The statewide population forecast is then disaggregated into smaller political subdivisions such as counties, municipalities, townships, etc. It is the latter figures that are to be used, if available, in your facilities plan. States may, however, decrease existing population projections if it is done on a consistent statewide basis.

Most States have completed population projections. If projections are not available, you may: prepare your projection by calculating your average yearly growth rate from 1970 to the present and use that growth rate to obtain a 20 year projection; or compute the growth rate of a larger area (township or county for example) where future population projections are available and assume your community will grow at the same rate.

If in doubt as to what population projection to use for your planning area, consult your project reviewer.

As you prepare your facilities plan and develop alternative wastewater collection and treatment systems, carefully consider land use plans which have been prepared for the area. Projected land use patterns and densities are one basis for determining the optimum capacity and location of facilities. Where land use plans have not been prepared for all or part of the planning area, you can estimate future land use patterns and densities in consultation with existing planning agencies and zoning commissions.

Lands where development should be avoided, such as highway rights-of-way, powerline easements and environmentally sensitive areas (e.g., significant agricultural lands, parks and historic or archaeological sites), are not to be included when estimating future development patterns and densities.

Facilities planning offers an ideal opportunity to review existing land use plans or initiate land use planning. The two processes complement one another. Adherence to carefully conceived land use plans, for example, can reduce the cost of building and operating a treatment system by discouraging leapfrog or sprawl development (reducing collection system costs) and by determining realistic limitations to future growth (reducing treatment costs). In a similar fashion, the location, capacity and timing of treatment system components can influence the location, size and growth rate of new development thus also affecting many other municipal and private costs.

5.5.2

FORECASTS OF FLOWS AND WASTELOADS

The facilities plan relates the size and capacity for the facilities to the needs in the planning area. In determining design flow for the treatment works, consider: existing base flows; estimated future flows from residential, commercial, institutional and industrial sources; and nonexcessive I/I. Existing base flows equal actual metered flows minus the excessive I/I.

You should estimate future residential, commercial, and institutional flows based on one of the methods described below. Each method combines the sources of wastewater flows and expresses their total contribution in terms of "residential population equivalent" or gpcd. Capacity to accommodate future increases of per capita flow over time should not be proposed or approved for grant funding.

o Method 1 - Base your estimate of existing average daily flow on reliable water supply records adjusted for consumption and other losses, or on records of wastewater flows for extended dry periods minus estimated infiltration. This figure should be further reduced by industrial users and limited users. For example, seasonal populations can be converted to equivalent full-time residents using a multiplier of 0.1 to 0.2 for day use visitors and 0.5 to 0.8 for seasonal visitors. The resulting figure (gpcd based on existing sewered residential population equivalent) is then multiplied by the future projected population. This method is preferred and should be used whenever possible.

o Method 2 - When water supply or wastewater flow records are inadequate, you should calculate future average daily base flow (ADBF) by multiplying the future population projection by 60 to 70 gpcd. If you propose a higher gpcd figure, it must be justified and include the results of flow reduction (Section 5.5.3) and I/I (Section 5.4) analyses.

The treatment works may include capacity for both existing and future industrial flows (Section 6.9). You should contact existing industries during the planning process to determine whether existing flows will increase or decrease and the characteristics of their discharges. This determination could be influenced by considerations such as: industrial recycling, industrial pretreatment (required for some industries), estimated user charges, potential increased efficiency, and the general economic situation. In the case of significant industrial users (industries which intend to increase their flows or industries which will relocate in the area), obtain letters of intent documenting capacity needs and characteristics for existing or projected flows. This information will be particularly important to estimate the volume and characteristics of the sludge produced and to evaluate alternatives for the sludge management portion of the treatment works.

Flow allowances for unknown future industrial growth should be carefully evaluated and in general should not exceed 5 percent (or 10 percent where population is less than 10,000) of the design flow before the unknown future industrial flow is considered or 25 percent of the total industrial

flow (existing plus documented future). In all cases, unknown future industrial growth provisions should conform with WQM plans, land use plans, and zoning ordinances.

5.5.3

FLOW REDUCTION The facilities plan will include an evaluation of alternative flow reduction measures unless: the existing ADBF is less than 70 gpcd or the reviewing agency determines the area has an effective existing flow reduction program.

When these conditions are not met, the facilities plan should consider:

- o A public information program to encourage wastewater reduction;

- o Changes in water and sewerage pricing policies to promote conservation and flow reduction;

- o Installation of water meters and retrofitting existing homes with water saving devices by developing a sewer user charge that is proportional to actual water usage to further promote water conservation;

- o Changes in local ordinances or codes that require installation of water saving devices in new homes or other buildings.

Your plan should include recommendations on which flow reduction techniques can be cost effectively implemented when the project becomes operational. It should also include projections of expected flow reductions in 10 and 20 years. The analysis should consider potential increased costs of: administration, a public information program, public and private sector costs for retrofitting

existing buildings, and the additional costs for installing water saving devices in lieu of conventional devices. The analysis should also consider reduced or deferred construction and operating cost (including energy) for your water supply system, water and wastewater treatment works.

The plan should discuss steps to implement flow reduction where cost effective. A public information program should highlight recommended flow reduction measures, their costs, potential savings and costs for a typical household. A recent EPA publication, "Flow Reduction: Methods, Analysis Procedures, Examples," FRD-15, may be helpful.

5.6

FUTURE ENVIRONMENT WITHOUT THE PROJECT

The description of the future conditions developed in the preceding sections will help

document the need for the project and will provide a benchmark for comparison of alternatives (Chapter 6). A description of the future environment without any project is termed the "no action" alternative and is to be evaluated as one of the options to building your project. The "no action" alternative provides a dramatic comparison between "do nothing" and "build a project" and will help you and the public more clearly understand the impacts (social, environmental, economic, etc.) of the proposed project. In many cases, however, the "no action" option will be appropriate for a portion of the planning area.

CHAPTER 6

DEVELOPMENT AND SCREENING OF ALTERNATIVES

6.0

DEVELOPMENT OF ALTERNATIVES

The primary objective of facilities planning is to develop and evaluate various solutions to the water pollution problem and select the most cost-effective solution for wastewater and sludge management to serve the planning area. Cost-effectiveness as used in this context means both monetary and nonmonetary (e.g., environmental, social, institutional) considerations. Therefore, the development and selection process seeks to identify the treatment system which is the most economical means of meeting applicable water quality standards and public health requirements over the design life of the project recognizing environmental and other nonmonetary factors and is implementable from legal, institutional, financial and management standpoints.

Small communities should consider the possible use of simplified (generic) and model plans to help select the most cost-effective solution. This should be discussed with your project reviewer.

In addition, small communities are required to evaluate appropriate low-cost technologies (Section 7.3) even though local codes may restrict the use of some of these technologies. This evaluation will enable a realistic appraisal to be made of the costs and benefits of such a restrictive code and may provide the basis for reevaluating the

restriction. One such low cost technology is upgrading existing onsite systems in order to correct the problems.

For larger communities, all feasible waste management systems are identified and screened to determine those principle alternatives that are capable of meeting Federal, State, and local criteria. Communities with existing or proposed advanced treatment (AT) or zero discharge requirements must consider AT and land treatment technologies in their cost-effectiveness analyses in addition to other alternatives involving relocation of the discharge. Evaluation of principle alternatives is discussed in Chapter 7.

All communities consider additions to or replacement of part or all of any existing facilities. Note, however, that if the existing facilities were built with a grant under the Water Pollution Control Act of 1956, (PL 84-660) or its amendments, a second grant during the facilities design life is not available except under limited circumstances. Allowable costs (Section 15.1) should be discussed with your project reviewer before completing your financial capability analysis (Section 7.3).

6.1

OPTIMUM OPERATION OF EXISTING FACILITIES Include in your facilities plan an evaluation of improved effluent quality attainable by upgrading the operation and maintenance (O&M) of existing facilities as either an alternative or supplement to construction of new facilities. Include an explanation of why improved effluent quality cannot be obtained

cost-effectively through upgrading if your facilities plan recommends complete or partial abandonment of existing facilities.

An evaluation of existing facilities, including onsite septic systems, may reveal that they can function more efficiently with the addition of new equipment, operational changes, public education, or the addition and training of operating personnel. Problems with plant and onsite system operation are usually due to one or more of the following:

- o Inadequacy of the treatment plant design for the character and amount of waste treated (including infiltration/inflow (I/I) and industrial flows);
- o Inadequacy of O&M program including process control method, laboratory procedures, maintenance management systems, staffing, salaries, and replacement funds and schedules;
- o Site-related problems; and
- o Outdated or failing equipment.

You should describe the cause, extent, nature, and location of such problems.

EPA publications "Performance Evaluation and Troubleshooting at Municipal Wastewater Treatment Facilities, (MO-16)," and the Design Manual: "On-site Wastewater Treatment and Disposal Systems" listed in Appendix B, provide detailed system evaluation guidance.

Whatever the results of the evaluation, identifying the possible optimum operation of existing facilities will help determine if additions, expansions or replacements must be made, and the extent to which existing facilities can be converted

or used in lieu of a new system. In preparing this evaluation be sure to consider any improvements expected as a result of future pretreatment by industrial contributors, removal of excessive I/I, or staging of new capacity.

6.2

REGIONALIZATION If the facilities planning area includes several communities, a planning approach that considers regional management as well as physical consolidation of existing systems should be evaluated. This approach may have been evaluated or recommended in an approved water quality management (WQM) plan for the area and should be followed (Section 4.0).

Alternatives for a large planning area may involve various arrangements for construction, O&M, and management. For example, several jurisdictions may form a regional authority to construct, operate and maintain a centralized treatment system for the entire planning area, while each municipality is responsible for its own collection system. Another approach may be where one jurisdiction serves as the lead agency for construction and O&M of separate facilities that serve each of the jurisdictions.

Regionalization may, but need not, involve construction of physically interconnected facilities. Rather, individual jurisdictions may be responsible for construction of municipal facilities and onsite systems while a regional authority may be formed to administer one or more operation and management functions, such as sludge management.

Regional facilities have various advantages and disadvantages. Advantages may include: savings in personnel, materials and supplies; more treatment capability per dollar; higher operator skill levels; better performance of treatment plant; fewer sites and effluent discharge points. Fewer sites and effluent discharge points could reduce direct environmental impacts.

Disadvantages may include: higher costs due to heavy reliance on technology; longer design and construction time; potential for induced growth and resultant adverse environmental impacts; depletion of streamflow; concentrated discharge; and a need for inter-municipal service agreements.

When considering regional alternatives involving construction of new interceptors or collector sewers to connect communities in the planning area, evaluate the environmental factors discussed in Sections 3.2 and 6.6. The cost for the collection system portion of a project in a small community generally represents at least 50 percent of the total user cost and can be as high as six times the cost of the treatment plant alone. For this reason, the financial impact of installing new gravity collection systems or extending sewers should be carefully evaluated (Section 7.3).

Executed intermunicipal service agreements or equivalent documented commitments (e.g., letters of intent from significant industrial users) are to be submitted with a Step 3 application or before initiation of procurement action for building the project for Step 2+3 grants (see Introduction - Managing Your Project; Section 8.5.1).

Regionalization which includes an unincorporated area is usually accomplished by any of the following methods:

- o Intermunicipal service agreement where a "municipality" (i.e., county) acts on behalf of the unincorporated area;

- o Annexation; or

- o Service contracts with individual users.

6.3*

UNSEWERED AREAS Identify in the facilities plan areas which are served by existing onsite or cluster wastewater disposal systems, and particularly note those systems that are causing or are likely to cause public health problems or groundwater contamination. Onsite systems are self-contained systems that provide both treatment and disposal of wastewater on or immediately adjacent to an individual lot (e.g., septic systems). "Cluster systems" typically serve a group of two or more (up to twelve or so) homes or small commercial establishments.

If one of the alternatives to be evaluated is a new conventional collection system (Section 6.4), you should also evaluate small alternative wastewater systems (Section 6.7.2). These systems must be evaluated for existing unsewered portions of communities with a population of 10,000 or less. A community can be considered a group or groups of homes and small business establishments (with dwelling units in the majority) having a recognized identity or name in the area, although it need not be an incorporated political jurisdiction.

In justifying the need to provide sewer service to unsewered areas you should present the following information:

- o Specific documentation of the nature and extent of health, groundwater or discharge problems associated with existing onsite systems;

- o Pertinent information documenting physical restrictions to the use of onsite systems (e.g., soil classification maps, previous soil borings or excavation data, percolation test results, historical data, lot sizes, etc.); and

- o Documentation of the type, condition, age, number and location of all onsite systems drinking water wells.

The U.S. Department of Agriculture's Soil Conservation Service (SCS), in a continuing effort, has prepared soils surveys for more than half of U.S. counties. When properly used, these surveys provide wastewater planners with valuable preliminary general information on the soils in a planning area. It is essential, however, that planners and designers recognize the limitations on the use of SCS's soils surveys. Individual survey mapping units represent areas greater than 2 to 6 acres. As a result, these units can contain soils which differ from the major soil types indicated in the survey. These other unidentified soils may be better suited for onsite wastewater treatment systems. Because of this inherent inexactness, soils surveys should not be used as a substitute for site-specific design investigation. In addition, SCS limitation ratings (e.g., slight, moderate, severe), when used in

conjunction with septic tank soil absorption system installations, are based on a conventional trench or filter bed design. The soil ratings do not indicate the suitability of the soil for modified onsite or cluster system designs (e.g., mound system). On this basis, soils survey limitations should not be used to categorically rule out all onsite and cluster system solutions to wastewater problems.

A community survey which describes and analyzes the system failures is recommended and should describe known or suspected water quality or public health impacts resulting from the failures (Appendix R). Use of local health department or sanitarian records, citizen complaints, maps, and aerial surveys will provide significant data to evaluate the condition of existing onsite systems. Detailed community surveys such as house-to-house gathering of engineering data may be necessary to fully evaluate existing onsite systems. In addition, the survey can develop actual or typical costs for rehabilitation, replacement, or modification of onsite systems.

Where the need to replace onsite systems has been justified, compare the costs and environmental impacts of a conventional collection (Section 6.4) and centralized treatment system to small alternative wastewater systems (Section 6.7.2).

6.4

CONVENTIONAL COLLECTION SYSTEM

A conventional collection system is a collection system carrying essentially raw wastewater, consisting generally of 8-inch-diameter or larger gravity collector sewers normally with

manholes, force mains, pumping or lift stations and interceptors leading to a central treatment plant employing conventional concepts of treatment and disposal. Because the Clean Water Act (CWA or Act) is intended primarily to correct existing water quality problems, construction of conventional sewage collection systems are grant allowable only where:

- o The system is for replacement or major rehabilitation of an existing collection system which was not built with Federal funds awarded on or after October 18, 1972, and where necessary to the integrity and performance of the complete waste treatment system; or

- o The bulk (generally two-thirds) of the expected flow (flow from existing plus future residential users) will be from the resident population on October 18, 1972 (the date the Federal Water Pollution Control Act amendments were enacted); and

- o New development will not occur on environmentally sensitive areas.

Where a new system is funded, you must provide assurance that the existing population will connect within a reasonable time after project completion.

The 1981 amendments modified earlier legislation and discontinue grants for conventional collection systems after September 30, 1984, except when a Governor exercises discretionary authority (up to 20 percent of the State's allotment) to approve such projects for grant assistance.

If a new collection system meets the criteria above, the following guideline will be of assistance.

Where the population density within a proposed collection system area is greater than 6 persons per acre (two households per acre), conventional gravity collector sewers and centralized treatment may be cost-effective.

Where the population density is less than 6 persons but 1.7 or more persons per acre (one household per 2 acres), both conventional and small alternative wastewater systems should be carefully evaluated.

Where the population density in an area is less than 1.7 persons per acre (one household per 2 acres), conventional collector sewers generally are not considered cost-effective unless a severe pollution or public health problem exists and conventional collector sewers are shown to be clearly more cost-effective than any alternatives for these sparsely populated areas (Section 6.7.2).

6.5*

ALTERNATIVE CONVEYANCE SYSTEMS

Alternative conveyance systems consist of wastewater collection systems

serving individual systems, cluster systems, and small communities or sparsely populated areas of larger communities. Historically, small communities have been of less than 3,500 population and sparsely populated areas with a population density of less than 1.7 persons per acre (one household per 2 acres).

Alternative conveyance systems are comprised of small diameter gravity, pressure, or vacuum sewers conveying fully or partially treated wastewater. Small diameter gravity sewers conveying raw wastewater to cluster

systems are also considered alternative conveyance systems for individual systems, except for the onsite portion of the building sewer (40 CFR Part 35, Appendix A). Alternative conveyance systems are exempted from the collection sewer limitation (i.e., two-thirds rule) when planned for small communities. In addition, these systems remain eligible for grants after September 30, 1984.

Under the innovative/alternative set-asides, their Federal share is up to 85 percent (75 percent after September 30, 1984). In addition, alternative conveyance systems may receive the 15 percent alternative cost-effectiveness preference except when they are privately owned (Section 6.7.4).

6.6

EVALUATION OF Since the location SEWER ALIGNMENTS and size of intercepting and collecting sewers will influence growth in the planning area, they should be planned carefully and evaluated for staging of construction. You should:

- o Not extend interceptors into environmentally sensitive areas unless absolutely necessary to eliminate existing discharges or serve existing communities that violate an enforceable requirement of the CWA;

- o Evaluate direct and indirect impacts of interceptors on environmentally sensitive areas such as archaeological and historic sites, floodplains, wetlands, significant agricultural lands, and undeveloped lands (less than one household per 2 acres); and

- o Identify measures to minimize adverse impacts on environmentally

sensitive areas where no practical alternative exists.

EPA will not fund portions of treatment works providing capacity for new development in environmentally sensitive areas and may impose conditions on related grants that could potentially impact these areas. Such conditions could include restrictions on sewer hookups or special conditions in National Pollutant Discharge Elimination System (NPDES) permits to ensure implementation of mitigating measures. In your facilities plan consider alternative routes for interceptors in light of the above factors.

Limits on the eligibility of collectors are discussed in Section 6.4.

6.7

WASTEWATER MANAGEMENT TECHNIQUES

This section describes three classes of wastewater and sludge management techniques which must be evaluated as a part of your facilities plan. They are:

- o Conventional technology - biological or physical/chemical treatment with direct discharge to surface waters; sludge treatment and disposal;

- o Alternative technology - specific treatment techniques for wastewater and sludge reuse or disposal as defined by law and the implementing regulations (Section 6.7.2);

- o Innovative technology - a wastewater or sludge management process or technique is innovative if it is not fully proven and provides for advancement over the state-of-the-art; modifications to conventional

or alternative technologies meeting the criteria may qualify them as innovative (Section 6.7.3).

For each of these three wastewater management techniques it is necessary to achieve a specific quality of effluent in the treatment process before final disposal or reuse. The required quality of effluent is called the best practicable waste treatment technology (BPWTT) which in turn will be established by the method of final effluent disposal or reuse. For example, in some rivers BPWTT may be defined as a minimum of secondary treatment. In other rivers or bodies of water where it is necessary to maintain a high level of water quality, BPWTT may be defined as AT, i.e., more than just secondary. In cases where a marine waiver discharge has been approved, BPWTT may be defined as something less than secondary treatment (Section 5.3). Finally, if an effluent is to be returned to the groundwater (e.g., slow rate irrigation), BPWTT may be defined as the primary drinking water standards depending on whether or not the groundwater is used or can potentially be used as a potable water supply.

Therefore, BPWTT is broadly defined as the cost-effective technology that can treat wastewater, combined sewer overflows, and nonexcessive I/I in publicly owned or individual wastewater treatment works to meet the applicable provisions of:

- o Part 133 for secondary treatment and discharge to surface waters;

- o Part 125, Subpart G for marine discharge waivers (less than secondary treatment);

- o Part 122.44(d) for higher levels of treatment beyond secondary if required to meet more stringent water quality or State standards; or

- o "Alternative Waste Management Techniques for Best Practicable Waste Treatment" (41 FR 6190) for treatment and discharge to groundwater after land application, utilization or reuse.

The effluent limitations that the BPWTT is designed to meet are generally specified in a NPDES permit. In those situations where a NPDES permit has not been issued, enforceable requirements of the Act shall include any requirements which, in the Regional Administrator's judgement, would be included in the permit when issued. Where no permit applies, enforceable requirements of the Act shall include any requirement which the Regional Administrator determines is necessary for the BPWTT to meet the applicable criteria.

As each of the three wastewater and sludge management techniques is evaluated, consider opportunities to generate revenues and reduce the use of or recover energy. Such opportunities might include the sale of methane gas after anaerobic digestion, the sale of crops irrigated with reclaimed wastewater, the sale of water for irrigation or others. Revenues generated through these methods must be used to reduce O&M costs resulting in lower user charges.

Additional details of the three management techniques are provided in Sections 6.7.1 through 6.7.3. Several important aspects of innovative and alternative (I&A) technologies are as follows.

I&A technology projects offer an opportunity to conserve energy or resources and reduce costs. In addition to the inherent incentives (i.e., cost, energy, and resource reductions) for innovative or alternative (I or A) projects, however, the law and regulations provide additional incentives which include:

- o Increased Federal grant assistance of 20 percent not to exceed a total Federal share of 85 percent, 75 percent after September 30, 1984;

- o Special set-asides of allotted funds to be used exclusively on I or A projects;

- o Grant for field testing of promising I or A projects;

- o Potential higher ranking on State's project priority list;

- o 15 percent cost preference for I or A projects over conventional projects (except for privately owned wastewater treatment works);

- o Potential for 100 percent replacement or modification grant for I or A projects which fail within 2 years of initiation of operation.

In order to assist you and your consultant in evaluating I or A projects, EPA has established a special program which provides technical assistance during the evaluation phase. Contact the I&A coordinator in your State or EPA office for additional information. In addition, EPA has established a small alternative wastewater technology clearinghouse at West Virginia University, which may provide helpful

information to you. The clearinghouse address and ordering information is included in Appendix B.

6.7.1

CONVENTIONAL TECHNOLOGIES

Conventional concepts of wastewater treatment are defined as those involving a biological or physical/chemical wastewater treatment process at a centralized facility with a direct point source discharge to surface waters. It is what the general public considers to be sewage treatment; i.e., gravity collection sewers all connected to an interceptor sewer leading to a centralized sewage treatment plant which discharges its effluent into the local stream, river, or lake.

In the case of conventional concepts of centralized treatment, the processes employed are those which have been used for years in water pollution control and are, therefore, fully proven and reliable. The selection of one process over another will be determined based on local conditions, costs and environmental impacts.

A significant by-product of wastewater treatment is the production of sludge. The cost-effectiveness of your project may be improved by increasing the reuse potential of your sludge through decreasing the contaminants and by reducing the quantity of sludge to be handled. For this reason, you should give special consideration to process and programs that provide reusable sludge by reducing contaminants. Special consideration should also be given to use of waste treatment and sludge handling procedures that result in reduced quantities of sludge.

Plan the management of your sludge with as much care as you give to the plan for treating wastewater. In so doing, you should consider the following factors:

- o Stabilization and management techniques that will not result in adverse impacts on human health or the environment;

- o Cost-effective techniques for use or disposal (including O&M costs); and

- o Public acceptance of sludge reuse/disposal risks, costs, alternatives and environmental consequences; give particular attention to siting problems.

Improvement of sludge quality and reduction of sludge quantity (through selection and operation of wastewater and sludge management alternatives, pretreatment, and source control) can optimize cost-effective resource recovery and public acceptance and minimize environmental impacts.

Many different treatment, use and disposal methods are available for evaluation. In general, these methods can be considered in two major categories:

- o Treatment and volume reduction incineration (thermal reduction), composting and surface impoundments; and

- o Ultimate utilization and disposal - landfills, ocean dumping and discharge, landspreading and distribution/marketing.

In addition to the CWA, there are other existing Federal laws which emphasize the need for environmentally sound methods for the reuse and

disposal of municipal sewage sludge. They include: the CAA, the Marine Protection, Research and Sanctuaries Act, the Toxic Substances Control Act, the National Environmental Policy Act, and the Resource Conservation and Recovery Act (RCRA). The RCRA requires control of solid wastes including toxic and hazardous materials.

In general, municipal sludges are not hazardous. However, large quantities of storm-water or industrial discharge into the wastewater treatment system will increase the possibility that your sludge may be classified as hazardous (Section 11.1.7).

Because of the complex nature of sludge management EPA has prepared "A Guide to Regulations and Guidance for the Utilization and Disposal of Municipal Sludge" (MCD-72). You should obtain a copy of this publication and also discuss sludge disposal options with your project reviewer.

6.7.2*

ALTERNATIVE TECHNOLOGIES **A l t e r n a t i v e**
 t e c h n o l o g y is a
 c o n c e p t o f
wastewater treatment or sludge management which emphasizes conservation or eliminates the discharge of pollutants. This concept places strong emphasis on reclaiming and reusing wastewater, productive recycling of wastewater and sludge constituents, energy recovery or other environmental benefits that may contribute to reducing costs.

Alternative technology is defined as any one of a number of processes and is specifically defined to include methods of effluent treatment (land application, for example), methods of

sludge handling and disposal (land application as a fertilizer or anaerobic digestion to recover and use methane gas), and methods such as onsite (septic systems) treatment or alternative conveyance systems which have special applicability for use in small communities. A listing of the technologies which have been defined as alternative is as follows:

Effluent Treatment

Land treatment (rapid infiltration, slow rate irrigation, and overland flow)

Aquifer recharge

Aquaculture

Direct reuse (nonpotable)

Horticulture

Revegetation of disturbed land

Containment ponds (Total)

Preapplication treatment and storage of treated effluent (prior to land treatment)

Sludge

Land application

Composting prior to land application

Drying prior to land application

Energy Recovery

Anaerobic digestion (greater than 90% methane recovery and use)

Self-sustaining incineration

Small Community Systems

Onsite treatment (individual or cluster)

Septage treatment

Alternative collection and conveyance systems

Applicable centralized treatment alternatives (as described above)

Alternative technologies are considered to be fully proven but may be relatively unknown because of infrequent use. They also require some rather unique consideration during facilities planning. Four alternative technologies are discussed in some detail to provide more specific guidance for covering such unique considerations in facilities planning.

o Land treatment - Land application for treatment and reuse of wastewater is encouraged by both the CWA and the EPA because of the recycling and reclaiming of resources and the potential cost and energy savings compared to AT. Note, however, that if you have an AT discharge requirement, you must evaluate conventional AT technologies as well as land treatment. Costs of land used as an integral part of the treatment process may be allowable for grant funding (Section 8.4.6). The 15 percent cost preference (Section 6.7.4) is also applicable for publicly owned land treatment systems.

A two-phased approach to the evaluation of land treatment is recommended. The first phase should focus on availability of suitable sites and whether the cost of land treatment is competitive with other alternatives.

The second phase would include an in-depth investigation of sites and refinement of site-specific design factors. An analysis of land treatment should follow the procedures given in "Process Design Manual: Land Treatment of Municipal Wastewater" (EPA-625/1-81-013). Key design factors covered in this manual include:

- Site selection - The plan should include a map and describe reasons for rejecting sites as well as the availability of suitable sites. Categorical elimination of land treatment for lack of suitable sites is generally unacceptable unless well documented with supporting data;
- Loading rates and land area - Values outside those in the design manual should be justified and supported by a discussion of extenuating circumstances, such as seasonal limitations for application;
- Estimated costs - Costs for land treatment should be consistent with those in the literature. Elimination of land treatment due to unusually high costs should be documented;
- Preapplication treatment - The need for treatment more stringent than recommended in the EPA design manual should be well documented. If documentation is not acceptable, the costs of the additional processes beyond those recommended in the design manual may be unallowable for grant funding;
- Environmental effects - The environmental evaluation of

land treatment systems should emphasize quality and quantity of surface and groundwater resources, energy conservation, pollutant recycling, and compatibility of land use. BPWTT criteria are to be met for protection of groundwater based on current quality and uses of the water.

Three major techniques of land treatment have been defined as alternative technologies. These include slow rate irrigation, rapid infiltration and overland flow and are discussed separately in EPA design manuals. Other land application techniques defined as alternative were listed at the beginning of Section 6.7.2.

Alternative sludge technologies - Alternative sludge techniques are encouraged by the CWA and EPA due to resource conservation, energy savings or higher level of treatment achieved over conventional sludge management techniques.

- Composting is a treatment process which stabilizes and disinfects sludges, resulting in products which can be distributed and marketed (giveaway/sale program), landspread or used as a cover for landfills. The major composting techniques used in this nation are open air systems (aerated pile and windrow), though more complex systems (enclosed and mechanical) are now being introduced. Land may be an eligible cost (Section 8.6.4). Planning for a composting process requires some special site considerations to ensure public acceptance.

- Landspreading can be used in agriculture, silviculture, turf grass production, in revegetating strip-mined or other disturbed areas, on roadsides, as well as other uses. Many forms of sludge (e.g., liquid, dewatered, composted) can be utilized for landspreading. It is important to plan for mitigation of contaminants such as pathogens, heavy metals and toxic organics in landspread sludge and to identify any State or local restrictions on the landspreading of sludge. One of the most critical components in planning a successful landspreading program is having interaction with and support from nearby residents and farmers. Land may be an eligible cost (Section 8.6.4).

- Distribution and marketing (giveaway/sale program), like landspreading, involves the utilization of the plant nutrients and soil conditioning properties of sludge. Distribution and marketing, in contrast to landspreading, generally requires a very well stabilized and easy to handle sludge product low in critical contaminants. For this reason, well disinfected and low moisture products (e.g., composted, heat-dried sludges from cleaner sources) are more appropriate for giveaway/sale programs. Considerable marketing expertise is needed to provide use instructions and to convey to the receiving public that sludge is a valuable resource, and not a worthless waste product.
- Planning new facilities or conversion of existing anaerobic digesters for the recovery and

utilization of methane can result in considerable cost savings for many municipalities.

- In order to be eligible for the alternative technology grant funding preference, an incineration system must be a net energy producer or "self-sustaining" (including the energy used for sludge dewatering, combustion and pollution control equipment). To meet this requirement, extremely energy efficient equipment and operating procedures (such as codisposal) have to be used for collecting and recovering heat energy. The facilities plan should include good documentation of net energy production and, as appropriate, use of the net energy.

o Small alternative wastewater systems (SAWS) - SAWS are systems that serve small communities with a population of 3,500 or less or sparsely populated areas of larger communities. These SAWS may receive up to 85 percent grants (75 percent after September 30, 1984) because they qualify as alternative technology (Section 6.7.2).

For areas where the population is less than 6 persons, but 1.7 or more persons per acre (one household per 2 acres), SAWS systems should be carefully evaluated. Where the population density in an area is less than 1.7 persons per acre (one household per 2 acres) SAWS are generally cost-effective unless severe pollution or public health problems exist and conventional collectors are shown to be clearly more cost-effective than other alternatives for sparsely populated areas (Section 6.4).

Twenty-one SAWS are briefly illustrated and described in an EPA publication (FRD-10) available from EPA (Appendix B). Detailed technical descriptions of many of these systems are found in EPA's "Design Manual for Onsite Wastewater Treatment and Disposal Systems" (EPA-625/1-80-012). Several other EPA publications provide detailed technical information on SAWS technology and management. Others provide useful information for persons not involved with the design of SAWS. (See Appendix B for titles.) You are encouraged to review these publications.

EPA's small alternative wastewater technology clearinghouse at West Virginia University (see Appendix B for address) can assist you in obtaining state-of-the-art and other information on SAWS. In addition, you may also contact your State or EPA regional I/A coordinator for assistance in project planning.

In addition to the inherent incentives (e.g., cost, energy and resource reductions), the CWA and regulations provide additional incentives to promote appropriate use of alternative technologies. Special set-asides, cost preference and other provisions are described in the general discussions of I&A technologies found in Section 6.7.

Combinations of SAWS and conventional systems may also provide considerable savings compared with a single conventional collection and centralized treatment system. For example, septic systems may work quite well in many small towns except in an isolated area such as a business district or "downtown" area where open space for septic systems is not available. In this case, the business district could

be served by a conventional collection and treatment system or an alternative conveyance system to a cluster treatment system on the outskirts of the congested area, while the outlying areas may use septic systems.

Intermittent sand filters (ISF) may often be cost-effective for unsewered areas where conditions do not permit the use of conventional soil absorption systems. ISF provide a low cost method for upgrading failing septic tank systems. They may be well suited for treating wastewater from single-family residences, clusters of residences, and small commercial establishments.

Grant assistance may be provided for both publicly and privately owned SAWS serving residences and small commercial establishments that were inhabited or in use on or before December 27, 1977. However, these systems (see discussion in this section) must serve principal residences in order to be grant eligible.

It is necessary that your municipality have access to SAWS even though portions may be on private property. While this requirement may be met by an easement or a covenant, it may be easily satisfied by a simple agreement that is recorded with the deed. Another option is State enabling legislation which ensures access to municipal wastewater land disposal zones.

For publicly owned systems, the agreement referred to above should state that:

- The municipality will retain ownership of the system;
- The municipality will be able to enter the property for

inspection, monitoring, construction, O&M, rehabilitation or replacement purposes at reasonable times for the life of the project; and

- The municipality will have complete control over the system.

For privately owned systems a simple agreement with the property owner will suffice if it is recorded with the deed for the property served by each individual system. The agreement provides for access to the system at all reasonable times for inspection, monitoring, construction, maintenance, operation, rehabilitation, or replacement over the life of the project.

Title abstracts or insurance, detailed property and septic tank location descriptions, or land surveys are not required for either publicly or privately owned systems.

Describe in the facilities plan a management program for SAWS to be implemented after award of grant assistance. The description should include provisions for:

- Physical inspection of all onsite systems in the planning area as is necessary to insure proper operation;
- Pumpouts, renovation, and replacement as needed;
- Routine maintenance and servicing of mechanical and electrical components;
- Testing of selected existing, local potable water wells once a year;

- Additional monitoring of water supply aquifers, if appropriate, where substantial numbers of onsite systems exist; and
- A user charge system and financing plan (Section 12.2).

Your management program could also provide for review and approval of new sites and installations, and a public education program for homeowners concerning the operation and maintenance of their individual systems.

For a more complete discussion of management programs, see "Management of Onsite and Small Community Wastewater Systems" (Appendix B).

The 15 percent cost preference (Section 6.7.4) is applicable to "publicly owned" SAWS (not privately owned, individual systems) to determine if it is the most cost-effective alternative (Section 7.3.1).

o Individual systems - Individual systems are small alternative wastewater treatment systems that are privately owned. These systems are typically onsite or cluster treatment and disposal systems.

As a financial incentive to small or rural communities, an eligible municipality may apply for a grant for construction of individual, privately owned treatment works when they are shown to be cost-effective and public ownership is not feasible.

Grants for individual, privately owned systems may be made only for those which serve "principal residences" (residence for 51 percent

or more of the year, i.e., not second homes or vacation or recreation residences), and "small commercial establishments" with dry weather flows of 25,000 gallons per day or less. Private nonprofit entities such as churches, schools, hospitals or charitable organizations are considered small commercial establishments. These residences and establishments must have been constructed by and inhabited on or before December 27, 1977.

Individual (privately owned) systems do not qualify for the 15 percent cost preference to determine cost effectiveness. However, they are eligible for up to 85 percent (75 percent after September 30, 1984) grant assistance (Section 7.3.1).

6.7.3

INNOVATIVE TECHNOLOGY

Innovative technology is significantly different

from either conventional concepts of centralized treatment or alternative technology. Innovative technology is not a specifically defined treatment process; it is something new which has not been fully proven but is promising based on results from research and demonstration projects. Innovative technology includes an element of risk and a corresponding benefit which outweighs the risk. The designation of a project, portion of a project, or a process unit as innovative should encourage the design and construction of more efficient municipal wastewater treatment projects by advocating departure from the standard engineering and design practices. It is to be noted that both conventional concepts of centralized treatment and alternative technology are candidates for innovative classification if either meets criteria established to

ensure the goal of advancing the state-of-the-art for a promising new concept that should significantly reduce costs or provide significant environmental benefits. Examples of these criteria are as follows:

- o Cost reduction (in the range of 15 percent life cycle cost);
- o Net primary energy reduction (in the range of 20 percent);
- o Improved toxics management;
- o Improved operational reliability;
- o Improved environmental benefit;
- and
- o Improved joint industrial/municipal treatment.

There are some key factors to consider in the use of these criteria to present, review and decide upon the designation of a project as innovative. The cost and energy criteria are quantitative while the other criteria are qualitative and tend to be subjective. Documentation to support designation as innovative in the facilities plan will be more difficult for the qualitative criteria yet it is important that this be done. Some concepts for use of the criteria are discussed separately.

- o Cost reduction - The proposed processes or techniques should significantly reduce costs (in the range of 15 percent). The cost referred to here is life cycle cost or total present worth costs, i.e., the capital costs plus the present worth of the operating, maintenance, and replacement costs minus the present worth of the salvage value over the life of the project. The cost comparison must be made throughout

the treatment system to determine the influences of the processes proposed for innovative designation. For example, an aeration process which reduces aeration life-cycle costs by 15 percent with no other influences would satisfy the criteria, while an aeration process which reduces aeration life-cycle costs by 15 percent but causes a comparable 10 percent cost increase in other processes, would not satisfy the criteria.

- o Efficient use of energy - The proposed process or technique significantly reduces (perhaps through recovery and reuse) primary energy use (in the range of 20 percent). Primary energy referred to here is the energy that crosses the treatment plant boundary (electricity or natural gas, for example). The definition of primary energy as "that crossing the treatment plant boundary" eliminates the necessity of evaluating how the electricity, for example, was generated (burning coal, oil-fired generator, etc.). The net primary energy savings is determined by comparing the proposed innovative process against the least energy-consuming process (which must also be cost-effective) which would have been selected if no innovative process was considered, i.e., the least energy consuming and cost-effective non-innovative process.

- o Improved toxics management - For this criterion the proposed innovative process or technique should reduce or eliminate the direct and indirect exposure of known toxicants to the environment beyond that normally expected in conventional treatment practice. Better management can be demonstrated through reduction in exposure brought about by chemical,

physical, or biological mechanisms that reduce or eliminate the recycling of toxicants within or between media. Recognizing that many, if not all, known toxicants should be eliminated at the source through pretreatment of wastes (primarily industrial), this criterion is less likely to be employed for qualifying a process as innovative.

o Improved operational reliability - Under this criterion the proposed process or technique should: (a) provide decreased susceptibility to plant upsets or interference, (b) result in reduced occurrence of inadequately treated discharges, or (c) provide decreased levels of required operator attention and skills. These results may be achieved by any one or more of the following means:

- Greater mechanical reliability;
- Greater inherent physical, chemical or biological process stability or reliability including processes or transformations taking place in the soils of land application systems;
- Improved system design;
- Increased standby or backup facilities;
- Continuous monitoring alert or diversion systems.

o Improved environmental benefit - This criterion is more subjective than the others and requires considerable explanation in the facilities plan if it is to be used as a means of qualifying a proposed process as

innovative. The improved environmental benefit should fall into one of five specific areas, namely, (a) water conservation, (b) more effective land use, (c) improved air quality, (d) improved groundwater quality, and (e) reduced resource requirements for facility construction and operation.

o Improved joint industrial/municipal treatment - This criterion refers to treatment of industrial wastes discharged into a municipal collection system for treatment at the publicly owned treatment works or the joint treatment of municipal and industrial residuals (sludge) resulting from the joint or independent treatment of liquid wastes. The objective of this criterion is to encourage the development of management techniques which allow for the joint treatment of industrial/municipal wastes which (a) maximize the cost-effectiveness of treatment, (b) equitably distribute costs, (c) achieve improved management of wastes, and (d) control toxic materials and industrial wastes.

Examples of some candidate industrial/municipal joint treatment opportunities are:

- Use of industrial heat to improve liquid or solids processing efficiency;
- Industrial use of municipal treatment residuals;
- Use of industrial waste products as a source of additives or bulking agents in treatment processes (i.e., waste pickle liquor, wood chips, or fly ash).

6.7.4*

INNOVATIVE AND ALTERNATIVE COST PREFERENCE As encouragement to consider and employ I&A technologies, the law provides a 15 percent cost preference for either I or A technology. Put in a different way, the present worth cost of the I or A technology may be 15 percent more than the present worth cost of the least costly conventional alternative and still be considered equal.

To understand the application of the 15 percent (sometimes referred to as 115 percent) cost preference, refer to example 4 in Appendix E. If the entire project is claimed to be I or A technology, multiply the total present worth cost of the least costly conventional alternative by 1.15 (i.e., increase the total present worth cost by 15 percent) to establish a ceiling cost. The ceiling cost represents the maximum total present worth cost that may not be exceeded by the proposed I or A project in order to be considered cost-effective. If the proposed I or A project does not exceed the ceiling or maximum total present worth cost determined above, it may be selected as the proposed project assuming that other criteria beyond I&A considerations are acceptable (environmental impacts, public acceptance, implementability, etc.).

If the proposed I or A project contains only certain components or unit processes that are claimed as I or A, the 50 percent rule is employed. If the proposed I or A components or unit processes represent 50 percent or more of the total present worth costs of the I&A project, multiply the total present

worth cost of the least costly conventional alternative by 1.15 to establish the ceiling cost and proceed as described above.

If the proposed I or A components or unit processes represent less than 50 percent of the total present worth cost of the I&A project, multiply only the replaced conventional components by 1.15 and add the present worth cost of the other conventional components to obtain the ceiling costs. Again, proceed as above.

It should be noted that the cost preference merely provides an extra margin in terms of total present worth cost to proposed I or A projects but does not change the Federal grant share. In all cases, whether the proposed I or A project contains 1, 5, 10, 50, 73, or 92 percent I&A components or unit processes, only the I or A components or unit processes receive the increased grant share.

6.8

COMBINED SEWER OVERFLOWS The costs and benefits from control of combined sewer overflows (CSO) vary with numerous environmental and system related factors. Decisions relating to CSO s are made on a case-by-case basis.

Control of pollution from CSOs should be considered if application of BPWTT for dry-weather flows will not meet water quality standards. Where measures are proposed for the control of CSOs, the facilities plan should evaluate the following:

- o Alternative control techniques and management practices that could attain various levels of pollution

control, including repairs, restoration, and maintenance of the existing system, newly emerging nonstructural and less structurally intensive methods such as in-line storage, swirl concentrators and sewer flushing equipment;

- o Cost of achieving various levels of pollution control by each of the control techniques that appear to be most feasible and cost-effective;

- o Benefits to receiving waters of a range of pollution control alternatives during wet weather conditions; consult WQM plan as appropriate;

- o Costs and benefits from addition of advanced treatment processes for dry weather flows in the area as an alternative to CSO control.

The alternatives selected for control of CSOs should meet the following criteria:

- o The analysis demonstrates that the proposed level of pollution control is necessary to protect a beneficial use of the receiving waters even after the standards required by the CWA for industrial discharges are met and a minimum of secondary treatment is achieved for all dry-weather municipal discharges in the area;

- o Provision has been made for funding of secondary treatment of all dry-weather flows in the area or an application for a marine discharge waiver under Section 301(h) of the CWA has been received by EPA;

- o The technique proposed for CSO control is more cost-effective for protecting beneficial uses than other CSO control techniques plus

higher levels of treatment for dry-weather municipal flows in the area (see the CSO Guidebook and CSO Manual - Appendix B);

- o The marginal costs of control are not substantial compared to incremental benefits.

If portions of the planning area are served by combined sewers and an evaluation of CSO abatement is to be included in the facilities plan, you should request additional guidance from your project reviewer. To determine what portion of CSO control costs for a multiple-purpose project is allowable for grant funding, refer to the multipurpose discussion in Section 7.1.3.

The Agency's strategy for addressing CSO needs is based on the 1981 amendments to the CWA (PL 97-117). The CWA provides three ways to fund correction of CSOs. Section 201(g)(1) provides that CSOs are eligible for grants for the construction of municipal wastewater treatment facilities from funds available under Section 205 until September 30, 1984. Thereafter, CSOs will no longer be an eligible category, however, the Governor may recommend the use of up to 20 percent of the State's annual allotment for previously eligible categories, such as CSOs.

Second, Section 201(n)(2) creates a special fund to correct CSOs into marine bays and estuaries where significant usage of the waters for shellfishing and swimming would not otherwise be possible. This fund, administered by EPA Headquarters, has received appropriations totalling \$60 million for fiscal years 1983 and 1984.

Finally, beginning October 1, 1984, Section 201(n)(1) allows use of section 205 funds in the State's regular allotment to correct CSOs not eligible under Section 201(n)(2). Such projects may receive grant funds only if the State designates the receiving water as high priority and demonstrates that significant usage of the waters for fishing and swimming would not otherwise be possible.

Regulations concerning funding of CSOs from the regular State allotment at the Governor's request, require demonstration of need for attaining or enhancing swimming and fishing uses. This demonstration of need (Section 35.2024) is similar to that described in the guidance for marine CSOs. At its discretion, the State may use the marine CSO guidance in preparing its demonstration. For funding of CSOs from the Governor's 20 percent discretionary fund, such a demonstration is not required. However, because the impacts of CSOs and the degree of improvement provided by corrections are difficult to determine, and due to limited funds available, States may require a demonstration under priority list criteria.

Because CSO is an ineligible category after fiscal year 1984, if a CSO project is funded under the Governor's 20 percent discretionary fund, the Federal share will be 55 percent (or lower if a uniform lower Federal share is set by the Governor). This is also true of other no longer eligible categories, i.e., collector sewers and major sewer system rehabilitation.

The review of plans and specifications for marine CSOs can be delegated to the States once the Regions are

satisfied that the States have the ability and resources to conduct the review.

It should be noted that the CWA prohibits grant assistance for control of pollutant discharges from a separate storm sewer system or from a system that was not designed to carry both storm- and wastewater.

6.9

MUNICIPAL TREATMENT OF INDUSTRIAL AND FEDERAL FACIL- ITIES WASTES

Consider the issues mentioned below when planning municipal treatment facilities that will accommodate industrial flows or wastes from Federal facilities. The treatment works design capacity may include allowances for industrial flows if the principal purpose of both your project and the wastewater treatment system of which it is a part, is for the treatment of domestic wastewater of the entire community, area, region or district concerned (Section 5.5.2). However, grant assistance will not be provided for:

- o Costs of interceptor or collector sewers constructed exclusively, or almost exclusively to serve industrial users; or

- o Costs for control or removal of pollutants from industrial users unless you are required to remove such pollutants introduced from nonindustrial users; or

- o Costs to transport or treat wastewater from a Federal facility which contributes more than 250,000 gallons per day or 5 percent of the design flow of the complete waste treatment system, whichever is less.

Where industries will be served by the proposed facilities, a pretreatment program is required when:

- o The municipal treatment works or combination of treatment works operated by the same authority has a flow greater than 5 million gallons per day and serves or is expected to serve industries discharging pollutants which pass through or interfere with the operation of the plant or are otherwise subject to pretreatment requirements under the CWA; and

- o The water quality management plan does not include a pretreatment program.

Other situations when a pretreatment program may be required should be discussed with your EPA or State project reviewer or NPDES permit officer. Section 8.5.4 identifies specific elements to be included in a pretreatment program.

6.10

STAGED

CONSTRUCTION

Adding plant capacity or extending interceptors in stages during the 20-year planning period may be more cost-effective than full development initially.

Factors you should consider are:

- o Relative cost of providing full capacity initially compared with the present worth of deferred costs for providing capacity when needed; and

- o Uncertainties of projecting long-term wastewater flows and possible technological advances or flow and waste reduction measures which may limit need for full capacity.

Modular development of operable components of a treatment plant is advisable in areas where high growth rates are projected, where treatment must become more stringent later in the planning period, or where existing facilities are to be used in the interim but phased out later.

To evaluate the cost-effectiveness of staged construction, you should select an appropriate staging period as shown below unless your State has developed other guidelines.

If the ratio of:

Q_0/Q_1 is	Staging Period (Years)
Less than 1.3	20
1.3 to 1.8	15
Greater than 1.8	10

Where Q_0 is flow at end of a 20-year planning period and Q_1 is flow at the beginning of plant operation.

The staging period for interceptors is normally 20 years. However, within the limitations on reserve capacity discussed in Section 5.5, a larger interceptor may be appropriate. In evaluating an interceptor with capacity beyond 20 years, consider if:

- o The larger pipe will reduce adverse direct and indirect environmental impacts;

- o It is consistent with projected land use patterns;

- o It complies with Federal, State or local environmental laws;

- o It takes into account daily or seasonal variations of flow, timing of flows from various parts of the tributary area, and pipe storage effects;

o Off pipe storage to reduce peak flow is feasible; and

o Appropriate peak flow factors that decrease as average daily flow to be conveyed increases have been used.

6.11

MULTIPLE

PURPOSE PROJECTS

A multiple purpose project is a project designed to meet the enforceable requirements of the CWA (i.e., NPDES permit or ground-water criteria), but which also has components designed to serve other functions as well (e.g., agricultural, municipal, or industrial water supply, sludge management using codisposal of solid waste, or energy production). Appendix O contains additional information on cost allocation for multiple purpose projects.

Projects designed only to meet an enforceable requirement are considered single purpose. Thus, a project that includes land application as an integral part of a wastewater treatment system to meet effluent limitations is considered single purpose. An agricultural reuse project that uses effluent that normally would be discharged to a stream, i.e., discharge meets NPDES limitations, is considered multiple purpose.

To reduce costs and conserve energy, the facilities plan may contain a broad examination of structural and nonstructural alternatives that include multiple purpose options. Section 7.1.3 discusses the identification of allowable costs for multiple purpose projects.

CHAPTER 7

EVALUATION OF PRINCIPAL ALTERNATIVES AND PLAN ADOPTION

7.0

ALTERNATIVE EVALUATION

After developing feasible alternatives as described

in Chapter 6, systematically screen them to identify those capable of meeting Federal, State and local criteria (Section 6.7). Analyze the resulting principal alternatives to identify those which are potentially cost-effective.

Principal alternatives selected through this screening process will undergo a thorough cost-effectiveness analysis. The level of detail in your analysis depends upon the size and complexity of your project. In the facilities plan discuss the reasons for the selection of a preferred alternative and the reasons for the elimination of other alternatives.

The following sections describe in greater detail the screening criteria for plan selection.

7.1

EVALUATION OF MONETARY COSTS

Calculate present worth or equivalent uniform annual costs

for each principal alternative in order to make a valid comparison of future capital and operation and maintenance (O&M). "Present worth" is the sum which, if invested now at a given rate, would provide exactly the funds required to make all future payments. "Equivalent uniform annual cost" is the expression of a nonuniform series of expenditures as a uniform annual amount. Since both methods produce equivalent results, either may be used. Several

examples employing these methods of cost analysis are given in Appendix E. Detailed procedures for making these calculations are explained in most engineering economics textbooks.

The discount rate expected to be used for facilities planning begun in fiscal year 1985 (October 1, 1984 to September 30, 1985) is 8 3/8 percent. The rate changes each year; check with your project reviewer.

You should calculate costs on the basis of market prices prevailing at the time of your cost-effectiveness analysis. The analysis should not allow for inflation of wages and prices, except those for land and energy (Section 7.1.2). This is based on the assumption that prices for resources involved in treatment works construction and operation, other than the exceptions, will tend to change over time by approximately the same percentage. It is the differences in cost among alternatives that are important in the screening process as these differences will help identify the most cost-effective alternative. Later an updated or perhaps more detailed cost estimate of the selected plan can be made since it is this cost estimate that will be used in evaluating your community's financial capability.

Your analysis should include all costs (capital, annual and other direct costs such as disruption of business due to street work or opportunity costs such as the market value of publicly owned land that could be used for purposes other than wastewater treatment) that are attributable to the building and operation of your treatment works. Some examples of capital costs are: building the wastewater

treatment facility (including sludge management), interceptor sewers, pump stations, collection sewers; lease, easement or acquisition of sites or rights-of-way; and relocation. Costs that may not be grant eligible, such as house laterals on conventional collectors, should also be included.

Costs for O&M (e.g., labor, utilities, materials, outside services, expenses, and replacement of equipment and parts to ensure effective and dependable operation during the planning period) must be included in the cost-effectiveness analysis. These costs usually include both fixed and variable costs, the latter generally depending on the quantity of wastewater collected and treated.

If necessary and appropriate, interest during construction may be computed in one of two ways. If expenditures are uniform and the construction period is less than 4 years, interest is computed by taking one-half of the product of the construction period (years), the total capital expenditures (\$) and the discount rate. Otherwise, the interest should be calculated on a year-by-year basis.

The revenue which you may receive from the sale of treatment by-products (e.g., methane gas, crops, sludge or compost, etc.) is generally reflected in the cost-effectiveness analysis (Section 7.1.3). You should subtract any revenue from the annual O&M cost in your cost-effectiveness analysis.

Your cost-effectiveness analysis should also consider the salvage value of the treatment works at the end of the planning period. This value is based on a straight-line depreciation from the initial cost at the time of analysis to the end of the planning

period (except for land as noted in Section 7.1.2). You should use the following periods for the design life of the treatment works components:

- o Land--permanent;
- o Wastewater conveyance structures (collection systems, outfall pipes, interceptors, force mains, tunnels, etc.)--50 years;
- o Other structures (plant buildings, concrete tankage, basins, lift station structures, etc.)--30 to 50 years;
- o Process equipment--15 to 20 years;
- o Auxiliary equipment--10 to 15 years.

For interim facilities with an anticipated useful life of less than 20 years, salvage value should be based on demonstrated resale or reuse opportunities at the end of the interim period.

Once the present worth or equivalent uniform annual cost is determined for each principal alternative, the alternative which is cost-effective can be identified.

There is also a cost preference for innovative or alternative technology projects. Section 6.7.4 provides additional guidance and summarizes the procedures for application of the cost preference.

7.1.1

SUNK COSTS

Any investments or financial commitments made before or during facilities planning are regarded as sunk costs. As sunk costs they should not be included in the cost-effectiveness analysis because they have already

been committed regardless of the alternative selected. Such investments and commitments include:

- o Investments in existing wastewater treatment facilities and associated lands even though incorporated in the plan;
- o Outstanding bond indebtedness; and
- o Costs for preparing the facilities plan.

7.1.2

COST ESCALATION FACTORS FOR ENERGY USE AND LAND

Energy prices may be escalated for the appropriate fuel if historical data for your area show that energy prices have been increasing at a faster rate than building and O&M costs other than energy. You should consider the applicable provisions of existing State energy plans which effect energy costs but should not delay if a plan is not available.

Land prices should be escalated at a uniform rate of 3 percent per year except for right-of-way easements.

7.1.3

ALLOCATION OF COSTS FOR MULTIPLE PURPOSE PROJECTS

Multiple purpose projects combine water pollution control practices meeting the enforceable requirements of the CWA with other purposes (e.g., agricultural, energy generation or recreation). Generally, when projects involve multiple purposes (Section 6.11) and cost more than an alternative single purpose project designed for municipal pollution control only, the allocation of costs to each purpose will be based on the Alternative Justifiable Expenditure (AJE) method as described in Appendix O.

However, if a multiple purpose project is the cost-effective way of satisfying enforceable requirements (e.g., for CSOs), it should be treated as a single purpose project to determine grant eligibility. If the project is cost-effective, it is the preferred alternative regardless of what other purposes it serves. When preparing the cost-effectiveness analysis, apply the 15 percent cost preference as appropriate for innovative and alternative (I&A) projects.

Also, multiple purpose projects that combine wastewater treatment with recreation do not need to use the AJE method but can be funded at the level of the cost-effective, single purpose alternative. Incremental costs of the recreation component that exceed the cost-effective, single purpose alternative cannot be grant funded.

To determine what percentage of a project with recreation purposes is allowable, you should calculate the grant eligibility percentage by dividing the present worth of the cost-effective pollution control alternative by the present worth of the multiple purpose project, and multiplying the result by 100. Another simpler means of determining allowable costs can be used for proposed projects that involve clearly separate recreational components that are part of an otherwise single purpose project. Here the allowable cost simply equals the total capital cost of the single purpose components.

To determine the grant assistance for each component of other multiple purpose projects, multiply the cost of the component by the allowable percentage determined by the

appropriate cost allocation method. The resulting amount is then multiplied by 75 percent (55 percent after September 30, 1984) for a non-I&A component and 85 percent (75 percent after September 30, 1984) for an I&A component. Funding of up to 85 percent for I&A technology is limited to project portions specifically identified as I&A unit processes, I&A unit operations, or other components uniquely necessary for proper functioning of the I&A components.

Revenues generated by multiple purpose projects ordinarily should not be deducted from costs in either cost-effectiveness comparisons with single purpose projects or in cost allocations. However, some projects involving revenues from cogeneration of energy in the form of steam or methane gas may qualify for a limited exception. If an energy cogeneration project involves the sale of energy rather than its reuse within the plant, then anticipated revenues may be used in cost calculations up to a maximum of the net value of energy (revenue less cost of plant reuse) that reasonably could have been reused within the wastewater pollution control components of the proposed project.

7.2

RESERVE CAPACITY

Although you may propose reserve treatment works capacity beyond that allowable for grant assistance, it is not grant fundable. After September 30, 1984, grant assistance will be limited to the estimated cost for the treatment works capacity required at the time of grant award. Additionally, grant assistance awarded after September 30, 1990, shall be limited

to needs existing on September 30, 1990. You should describe the project to serve existing needs and the project with reserve capacity at the same level of detail. Special emphasis should be placed on the environmental (particularly indirect) and financial impacts of the proposed reserve capacity project.

If reserve capacity is proposed beyond that allowable for grant assistance (Section 5.5.2), it is necessary to calculate a proportioning factor (as a percentage) to be applied to other allowable project costs (e.g., architect/engineer (A/E) services during building, acquisition of eligible land, etc.). The proportioning factor, at the time of grant application, is based on the ratio of the estimated building costs, i.e., construction contractor costs for building the project. Compute the proportioning factor as the ratio of the allowable building costs for the grant allowable capacity divided by the building costs for the proposed larger project. Apply this factor to the other allowable project cost and add the appropriate allowance (Section 13.5) to determine the dollar amount of grant assistance.

When estimating the building costs for both the allowable and reserve capacity projects, be consistent and, where appropriate, use recent cost curves published by EPA (such as MCD-10, MCD-53, FRD-11, FRD-21, FRD-22; see Appendix B for names and availability of these publications).

Although grant assistance may only fund a portion of the project, the review and approval process will be the same as for a fully funded project. If the environmental impacts of any portion of the project are

unacceptable, grant assistance will not be awarded to the project.

When you receive the grant offer, it may include special grant conditions to protect the Federal government from any claim for any of the costs of construction due to reserve capacity. In addition, it should be noted that the user charge system applies to the entire project including the part providing the reserve capacity.

7.3

DEMONSTRATION	The Clean Water Act
OF FINANCIAL	(CWA) provides that
CAPABILITY	no grant shall be
	awarded for the

construction of a publicly owned treatment works unless the applicant has demonstrated satisfactorily that it has the legal, institutional, managerial, and financial capability to ensure adequate construction and O&M (including equipment replacement) of the proposed treatment system. Requirements for demonstrating financial and management capability are contained in the construction grant regulations. The Agency's Policy on Financial and Management Capability (Appendix K) explains these requirements.

Guidance has been developed to help States implement the policy (Appendix K). This guidance contains a Reviewer's Checklist, Analysis for Correcting High Cost Projects, and Suggested Screening System Elements.

To assist grant applicants in demonstrating their financial capability, EPA has prepared a "Financial Capability Guidebook" which is available from your State agency or EPA Regional Office. This guidebook also provides a method to evaluate the community's financial condition. The

guidebook is structured around two basic information sheets: the Wastewater Facilities Financial Information Sheet attached to the policy and a Supplemental Information Sheet. The Wastewater Facilities Financial Information Sheet provides an optional format that can be used to answer the five questions contained in the policy. Your State may have developed a different format for answering these questions. The Supplemental Information Sheet is provided to assist in evaluating the community's financial condition. Although it is not an EPA requirement to complete this information sheet, your community may find it useful in evaluating whether the community could successfully finance the system or should investigate other appropriate alternatives with potentially lower costs.

The guidebook contains several worksheets that are used in completing the information sheets. Specific instructions are provided for each worksheet as well as suggestions or examples of how the necessary information may be obtained. To complete the worksheets, you may need assistance from the municipal financial official or the engineering consultant. The results of the analysis will help local municipal officials reach a decision on the community's capability to finance and manage the project and also provide local taxpayers with sufficient information to allow them to express their opinions based upon factual information.

The facilities plan must demonstrate that the selected alternative is implementable from legal, institutional, financial, and management standpoints. Therefore, the financial

capability analysis should be completed, if possible, during the planning stages of a project and updated prior to applying for a grant. The financial capability analysis should be kept up to date since several years may have elapsed between the initial planning of a project and the award of grant assistance. During this time the financial condition of a community may have changed.

7.3.1

ASSURING LOW COST PROJECTS FOR SMALLER COMMUNITIES	Per capita costs for conventional waste- water projects are frequently higher in smaller communities (flows less than 1 million gallons per day) partly because of the size and distribution of population. In addition, smaller communities generally have fewer financial and management resources from which to draw. These circumstances make it critical that low cost (especially low O&M cost) treatment systems be selected. Treatment systems with low costs for operation, maintenance, and equipment replacement are especially important for smaller communities because these costs greatly influence the total annual costs your community and its residents will pay for wastewater facilities. Small sewered communities must at least consider land treatment and other low-cost alternatives, such as facultative ponds, trickling filters, and oxidation ditches. Those smaller communities that are unsewered must consider onsite systems.
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In order to help ensure selection of an appropriate wastewater treatment option, the Financial and Management Capability Policy requires delegated States to develop and implement a screening procedure. The purpose of

this procedure is to help identify potential problem projects at an early stage when they can be more easily resolved. To assist States in this effort, EPA has developed suggested screening system elements as part of the guidance for implementing the policy (Appendix K). If your project has been identified by the screening procedure as a possible problem project, your State will work with you to take a closer look at your project so that any problems can be analyzed and resolved.

If the project you are planning exceeds your community's financial capability, it may be possible to reduce its size. One way is to take a hard look at the population projections and flow estimates. Be realistic about estimates of future growth and wastewater treatment needs. Also re-evaluate the extent of sewerage. A water conservation program may reduce wastewater flow and the size of the proposed treatment plant. It may also allow continued use of onsite systems. Another idea is to construct the facilities in stages to spread the investment over a longer time period.

Often there are ways to simplify the design of the facilities to cut costs and make operation easier. Make sure the layout of the plant is as efficient as possible and eliminate all nonessential features. Perhaps laboratory or other facilities, even plant operators, could be shared with a neighboring town.

Sometimes the cost to finance a project can be reduced. Be certain that all available funding for the project has been obtained. Some Federal and State agencies have low interest loans. To reduce interest

rates, some States have bond banks or will guarantee local bonds. In some cases, extending the bond life can reduce annual costs.

If these measures do not help to sufficiently reduce costs, additional alternatives may need to be evaluated. A combination of approaches may be needed to solve different wastewater problems within the community.

Some communities have avoided sewers altogether by using onsite systems. Properly installed and maintained, onsite systems will operate satisfactorily for 20 years or more where site conditions are suitable. A management district can be set up to oversee O&M. Several different types of onsite systems have been developed to operate in situations not suitable for conventional septic tank systems such as steep slopes, rocky, or tight soils and high groundwater.

Alternative sewers should be carefully considered. Alternative sewers are smaller in size and are installed at shallow depths. Since they have no manholes and fewer joints, much less rain and groundwater can get into alternative sewers so treatment plants can be smaller.

Where conditions are not suitable for onsite systems, cluster systems can be used. The most common form uses alternative sewers to transport septic tank effluent from several houses to a common drain field. Treatment can also be provided by a pond, sand filter, mound, or land application.

It may also be useful for you to conduct an operability assessment. An operability assessment evaluates operation, maintenance, and replacement requirements of the treatment

system in the context of the community's institutional structure and its financial and management capabilities. Such an evaluation can point to the need for simplifying the proposed technology, improving the community's management capability, or both. Useful information for conducting such an evaluation can be found in "Comprehensive Diagnostic Evaluation and Selected Management Issues" (EPA 430/9-82-003).

7.4

CAPITAL FINANCING PLAN The project for which you request grant assistance may not be the only project addressed in your facilities plan (e.g., staged construction of a larger project that will satisfy future needs). Plant expansion, other projects in your jurisdiction, other facilities plans, or other non-Federally funded wastewater treatment projects may represent future financial obligations to be borne by your system users. For this reason, you are encouraged to prepare a capital financing plan as a part of your facilities plan which recognizes the cost relationship between your proposed project and future wastewater projects. The capital financing plan should contain:

- o A projection of the future requirements for waste treatment services within your jurisdiction for a period up to 10 years;

- o A projection of the nature, extent, timing and costs of future expansion and reconstruction of treatment works which will be necessary to satisfy your future requirements for waste treatment services; and

- o The specific manner you intend to use to finance the future expansion and reconstruction.

7.5

ENVIRONMENTAL EVALUATION Carefully evaluate the environmental impacts of principal alternatives as described in Section 3.2. Evaluate the adverse and beneficial, direct and indirect, short-term and long-term, monetary and nonmonetary impacts on the natural and human environment. Identify measures to mitigate adverse or unavoidable impacts, and consider the irreversible and irretrievable commitments of resources associated with each principal alternative.

7.6

EVALUATION OF RELIABILITY Evaluate each alternative for its reliability, i.e., ability to meet and maintain effluent limitations. The selected plan must be able to consistently meet this requirement throughout the planning period.

7.7

EVALUATION OF ENERGY REQUIREMENTS Include an analysis of energy requirements for each alternative system considered in your facilities plan. The selected plan should reduce consumption or increase recovery of energy where cost-effective. Energy reduction or recovery is one of the important aspects of I&A technology and your energy analysis should be integrated into your consideration of I&A technology. Where State energy plans exist, the analysis should also consider the recommendations of these plans.

7.8

EVALUATION OF IMPLEMENTABILITY Evaluate alternatives for their implementability taking into account legal, institutional and financial constraints.

Ensure that all jurisdictions find the selected plan acceptable and equitable (Section 8.5). Pay particular attention to financial management provisions of intermunicipal service agreements.

7.9

EVALUATION OF RECREATIONAL OPPORTUNITIES

Include in your facilities plan an analysis and description of potential opportunities for recreation and open space. Evaluate the recreational potential of the selected treatment plant site and collection system. You should base the analysis on existing data or evaluation of the sites. The analysis need not require extensive new data collection or surveys to determine suitability. The level of detail needed to produce a good recreational use analysis in a facilities plan depends upon the size of the community, the facility, and the suitability of the chosen site for recreation.

Show you've considered the recreation elements of approved Water Quality Management (WQM) plans. You should also coordinate with State and local recreation programs. Additional information may be found in the State Comprehensive Outdoor Recreation Plan or from the National Park Service of the U.S. Department of the Interior. Potential recreation benefits associated with wastewater projects include:

- o Use of interceptor rights-of-way for running or hiking paths, bicycling or equestrian trails;

- o Use of roadway to facilities for access to waterways for canoeing, boating, fishing, or swimming;

- o Provision for access to natural and historic sites for camping, photography, and appreciation;

- o Use of project sites for sports such as target shooting or field sports;

- o Use of facilities or sites for educational or information purposes; and

- o Recreational opportunities at offsite locations such as application of effluent or sludge to improve other recreational areas.

Multipurpose projects that include recreation may also be considered by coupling facilities planning activities with recreation planning. The allowable costs of multipurpose projects are limited to the cost effective, single purpose pollution control project; however, inclusion of recreational opportunities in the plan can effectively enhance public support while not significantly increasing the local share of project costs.

7.10

COMPARISON OF ALTERNATIVES

Summarize and compare the costs, primary energy requirements, environmental impacts, reliability, implementability and other significant issues of the principal alternatives. Figure 5 is a sample of a tabular comparison that may be used effectively for public presentations. Where quantification of these issues is not possible, a brief description will serve. The visual display should allow comparison of alternatives at a glance so it can be used at public meetings. One alternative displayed should be the "no action" alternative.

Type of impact	Alternatives			
	#1	#2	#3	#4
Monetary cost, dollars				
Capital cost				
Annual O&M cost				
Total present worth				
Cost per household unit				
Environmental impact				
Cultural Resources				
Floodplains and wetlands				
Agricultural lands				
Coastal zones				
Wild and scenic rivers				
Fish and wildlife				
Endangered species				
Air quality				
Water quality and uses				
Noise, odor, aesthetics				
Land use				
Energy requirements				
Recreational opportunity				
Reliability				
Implementability				

SAMPLE FORMAT

Legend:

- ++ significant beneficial impact
- + minimal beneficial impact
- o no impact
- minimal adverse impact
- significant adverse impact

Figure 5 Comparison of Principal Alternatives

You should conduct a midcourse review with your reviewing agency to ensure that all alternatives have been adequately considered, that the evaluation of the environmental impacts is adequate and acceptable and that applicable Federal, State, local, and public participation requirements have been met.

7.11

VIEWS OF THE PUBLIC AND CONCERNED INTERESTS

A public participation program should be an integral part of the facilities planning process

(Section 3.1). A section or chapter of the facilities plan should describe and summarize your public participation program including typical comments and responses at public meetings. Correspondence submitted by individuals, groups, or agencies should be appended to the plan. Where significant issues surface at meetings or in correspondence, the plan should indicate the appropriate response or action taken, justify controversial findings, or be revised.

EPA recommends holding a public meeting before the facilities plan is formally adopted and submitted to your reviewing agency. The preferred plan and alternatives should be presented at the meeting. After the meeting, local officials may formally adopt the facilities plan. You should include a final responsiveness summary and responses to significant comments in the final facilities plan.

In addition to the comments from the public and interest groups, you must obtain comments concerning your proposed project from the designated WQM agency (Section 4.0). These comments can be obtained through your State's intergovernmental coordination procedures (Section 2.3).

Finally, at the time of grant application it is required that your State agency certify to EPA that there has been adequate public participation based on State and local statutes during the development of your project. Ensure that you are familiar with and have satisfied this requirement.

CHAPTER 8

SELECTED PLAN, DESCRIPTION, AND IMPLEMENTATION ARRANGEMENTS

8.0

JUSTIFICATION AND DESCRIPTION OF SELECTED PLAN In a brief narrative you should summarize why the proposed plan was selected.

Demonstrate that the plan is cost-effective and environmentally sound. Describe the proposed treatment works and the complete waste treatment system of which it is a part. Describe all elements including service areas, collection sewers, onsite systems, interceptors, treatment works and ultimate reuse or disposal of effluent, sludge and septage. Use maps to show locations of major components, existing and proposed, and locations of any individual systems proposed for grant assistance. The plan should clearly identify project segments, implementing authority and include a project schedule.

8.1

DESIGN OF SELECTED PLAN Include in your facilities plan relevant design parameters to demonstrate that all major components of the wastewater treatment and sludge management system have been included, that the cost estimate is adequate and reasonable, and that the facilities can meet effluent limitations. The level of detail describing the relevant design parameters varies from project to project and depends on the project's complexity and requirements of the reviewing agency. For example, standard package treatment plants may not require the same degree of detail as a pure oxygen system with phosphate

removal and sludge incineration. Discuss the appropriate level with your project reviewer.

Relevant design parameters should include a simple tabulation (one or two pages) of information such as:

- o A description of the major features;
- o Unit processes and sizes including lift stations;
- o A schematic flow diagram and hydraulic profile;
- o Provisions for disinfection;
- o Sewer lengths and sizes;
- o Proposed design criteria including detention times, overflow rates, process and equipment loadings such as air capacity, energy requirements, etc., removal efficiencies, initial design flow, and reserve capacity; and
- o Schedule for completion of design and construction.

8.2

COST ESTIMATES FOR SELECTED PLAN Your facilities plan (Section 7.3) is to include cost estimates for design, building, operation and maintenance (O&M) of the selected plan. Additionally, it must include an estimate of total project costs and average annual charges to customers (see Appendix K for sample format). You should also include a statement on the availability and estimated costs of sites for the selected plan.

8.3

ENERGY REQUIREMENTS OF SELECTED PLAN Describe features of the selected plan that conserve,

recover or reduce energy consumption. For systems that claim innovation on the basis of energy reduction, the plan should contain a detailed energy analysis.

8.4

ENVIRONMENTAL IMPACTS OF SELECTED PLAN The facilities plan discusses how the treatment works will comply with applicable Federal, State and, local environmental laws and regulations.

Unless your project has been granted a Categorical Exclusion (Section 3.2.1), the facilities plan will describe the existing environment and relevant direct and indirect impacts of the selected plan. Emphasize:

- o The selected plan's unavoidable adverse impacts, especially on environmentally sensitive areas including archaeological and historic sites, freshwater and tidal wetlands, floodplains, agricultural land, steep slopes, and other areas;

- o The relationship between local short-term uses of the environment and the maintenance and enhancement of long-term environmental productivity;

- o Irreversible and irretrievable commitments of resources; and

- o Mitigation of unavoidable adverse impacts.

The description emphasizes indirect impacts on environmentally sensitive areas, present and future actions to protect these areas, and assures that interceptors conform with approved Water Quality Management (WQM) plans and EPA's objectives for minimizing indirect impacts on environmentally sensitive areas.

8.5

ARRANGEMENTS FOR IMPLEMENTATION The facilities plan demonstrates that the implementing authority has the necessary legal financial, institutional and managerial resources to ensure the building, O&M over the useful life of the project. Where responsibility for implementation rests with more than one agency, executed intermunicipal service agreements (Section 8.5.1) between agencies are required as part of the application for grant assistance.

To describe the arrangements for implementation adequately, the plan should:

- o Identify each agency, jurisdiction and its responsibility;

- o Demonstrate that each jurisdiction has the ability and authority under State law (or reasonable expectation of obtaining such authority) to finance, design, construct, acquire access to, operate and maintain those facilities within its jurisdiction;

- o Identify referendums or public elections necessary to implement the plan;

- o Include adopted resolutions of plan acceptance and proposed or executed intermunicipal service agreements; and

- o Identify jurisdictions that oppose or have failed to approve the plan and describe steps necessary to reach agreement.

The facilities plan should include a schedule of specific actions to implement the plan and to meet

its objectives. The dates in the schedule, if approved by your reviewing agency, will be included in your grant agreement and must correspond to compliance dates specified in your National Pollutant Discharge Elimination System (NPDES) permits (if applicable). Resolve differences that would result in failure to meet the compliance schedule, including, if necessary, a formal request through the reviewing agency for extension of compliance dates.

Some capital expenditures could be met through creative financing techniques using special improvement districts, industry assistance to local governments, or intergovernmental agreements. The institutional arrangements undertaken to finance the project, embodied within intermunicipal service agreements and described in your facilities plan, will ensure that your community has the necessary resources available to satisfy your financial responsibility.

If considering the financing technique of "privatization" (where, for example, a municipality enters into a sale/leaseback of its Federally funded wastewater treatment facility with a private sector firm or limited partnership enabling the private sector to receive depreciation tax benefits and affording the municipality the opportunity to purchase the facility at the end of the lease period), you should be aware that Office of Management and Budget Circular No. A-102 states, in effect, that partially or fully Federally financed treatment works cannot be sold or leased without permission of the grantor agency where leasing is treated as a sale for tax purposes. This approval, which would be given if

the property were no longer needed for the original purpose, would be contingent on the grantee reimbursing the Federal government the percent of the proceeds the Federal grant represented of the original costs.

Your description of the financial and institutional arrangements provides the project reviewer with a starting point in an overall financial assessment. A schedule for marketing bonds and developing a user charge system can be developed during facilities planning. This schedule may be adjusted as necessary during subsequent design and building of the project.

8.5.1

INTERMUNICIPAL SERVICE AGREEMENTS At the time of Step 3 grant application or before initiation of procurement action for building the project for a Step 2+3 grant, you must submit executed intermunicipal service agreements unless waived by the Regional Administrator or delegated State. At a minimum, an intermunicipal service agreement must:

- o Include the basis upon which costs are allocated between agencies (e.g., value of existing facilities, value of land, periodic capital requirements for expansion, costs for O&M, and administration);

- o Include the formula by which costs are allocated (e.g., quantity, strength or rate of flow, or combinations of these); and

- o Describe the manner in which the cost allocation system will be administered (e.g., cost accounting records, management systems, etc.).

In addition to these minimum requirements you must include adequate financial arrangements and incorporate appropriate municipal legislative enactments to enforce the requirements for a user charge system, enactment of a sewer use ordinance and, where appropriate, implementation of sewer system rehabilitation.

The requirements for intermunicipal service agreements may be waived by the Regional Administrator or delegated State if you can demonstrate:

- o That such an agreement is already in place; or

- o Evidence of historic service relationships for water supply, wastewater, or other services between the affected agencies regardless of the existence of formal agreements; and

- o That the financial strength of the supplier agency is adequate to continue the project, even if one of the proposed customer agencies fails to participate.

8.5.2

CIVIL RIGHTS COMPLIANCE

You are required to comply with the Civil Rights Act of 1964 and EPA's implementing regulations (40 CFR Part 7). These requirements forbid discrimination on the ground of race, color, or national origin. Where minority areas are included in the facilities planning area, show in the plan that such areas will be served or excluded from service only for cost-effectiveness reasons. Include in your facilities plan a statement that these requirements have been met.

8.5.3

OPERATION AND MAINTENANCE REQUIREMENTS

The facilities plan should contain a brief but accurate summary of the personnel, procedures, and budget that are necessary to operate, maintain, and manage the proposed treatment works. While a more detailed draft plan of operation (Section 12.4) which includes O&M requirements must accompany your grant application, the facilities plan need only to summarize those elements which impact costs and management considerations.

If an existing plant is to be upgraded or expanded, existing staffing, O&M policies and budget should be reviewed and updated as necessary to assure a sound O&M program. It should be noted that O&M costs also include funds for the replacement of equipment required during the useful life or design life, whichever is longer, of the project. In addition, your O&M program should include routine sewer inspection and maintenance.

Where a completely new treatment system will be constructed, a more detailed O&M discussion should be included in the facilities plan.

A recommended list of items to include in your O&M discussion is:

- o Annual O&M budget (fixed and variable costs);

- o Staffing (number and certifications);

- o Training;

- o Laboratory requirements;

- o Maintenance requirements;

- o Special operating requirements including cold climate restrictions, operation under emergency conditions such as power outage, high flow (storm) event, chlorine leakage, etc.; and

- o Residuals disposal (sludge, incinerator ash, etc.).

Although O&M costs (except for start-up costs) are not allowable for grant assistance, they must be included in your cost-effectiveness analysis and will be the basis for establishing user charges.

8.5.4

PRETREATMENT PROGRAM

Where your treatment facilities serve or will serve nonresidential customers (generally industrial), you may decide or be required to develop a pretreatment program in accordance with NPDES permit program requirements. Additional information on pretreatment is included in an overview of the pretreatment program (Appendix B).

A pretreatment program is intended to control pollutants from nonresidential sources. This may include wastes from publicly or privately owned municipal water supply facilities. The objectives of a pretreatment program are:

- o To prevent the introduction into the treatment plant of pollutants that will interfere with plant operation or disposal or use of municipal sludge;

- o To prevent the introduction into the treatment plant of pollutants that will pass through the plant into receiving waters or that will be otherwise harmful; and

- o To protect plant workers' health and safety.

When a pretreatment program is necessary, your NPDES discharge permit will contain a schedule for program development. The facilities plan should also include a discussion and schedule of actions to implement the program. A complete and approvable pretreatment program should include the following:

- o A survey that identifies system user by type and location and the character and volume of pollutants discharged (industrial waste survey);

- o An evaluation of the legal authority for control and enforcement including adequacy of enabling legislation and selection of mechanisms to be used (e.g., ordinances, codes);

- o A determination of technical and administrative procedures and information needed to support development of an enforcement mechanism to ensure compliance with NPDES permit conditions;

- o An evaluation to ensure adequate resources (funds, equipment, and personnel) are available to carry out the pretreatment program;

- o The design of a compliance monitoring and enforcement program;

- o A preliminary determination of monitoring equipment required at the treatment facilities;

- o A determination of tolerance of the treatment facilities to toxic pollutants; and

- o A preliminary determination of the municipal facilities' need for monitoring or analysis of nonresidential wastes.

Certain costs of a municipal pretreatment program are allowable under a grant awarded for the construction of wastewater treatment facilities. The development of an approvable municipal pretreatment program (40 CFR 403), the purchase of monitoring equipment, and the construction of facilities to be used by the municipality in the pretreatment program would be allowable costs as defined in Appendix A (40 CFR Part 35, Subpart I). The specific cost elements of your pretreatment program should be reviewed with your review agency to determine actual eligibility.

8.6 LAND ACQUISITION

8.6.1
GENERAL ACQUISITION
CONSIDERATIONS As an element
 of your cost-
 effectiveness
 analysis, the
facilities plan will have addressed:

- o The most suitable land for the project (e.g., size, soil conditions, slope, location);

- o The most appropriate method to secure rights in the land (fee simple, easement, ownership of some rights, lease, certain rights for a period of time, Section 8.6.2).

Acquisition of land, including easements, should be initiated at the earliest possible time. With reviewing agency approval, land acquisition may be initiated prior to Step 3 award. If acquisition occurs without reviewing agency approval, subsequent claims may be disallowed. In all cases, the reviewing agency must determine that applicable provisions of EPA's regulations

(40 CFR Part 4) implementing the Uniform Relocation and Real Property Acquisition Policies Act have been satisfied.

Your project will be evaluated to determine if you have or will have sufficient rights to the project land and to ensure undisturbed building and operation of the project for its useful life. You should include a cost estimate and proposed schedule for securing property rights.

For land to be eligible for grant assistance, it must be an integral part of the treatment process or land that will be used for the ultimate disposal of residuals (e.g., sludge). All land should be acquired, option taken or formal condemnation proceedings begun before initiating building of the project.

You should use professional staff to appraise, negotiate or condemn land. Consider contracting with State or Federal land acquisition agencies if you do not have these capabilities. Use "The Uniform Appraisal Standards for Federal Land Acquisition" (GPO 052-059-000-20). See Appendix G for supplemental information.

You should obtain your reviewing agency's approval that the proposed purchase price (based on an appraisal, your record of negotiations or condemnation proceedings) represents just compensation for the property. Costs in excess of just compensation are unallowable for grant assistance.

Early land acquisition with prior reviewing agency approval is considered a preaward cost and is eligible for grant participation in a future grant (Sections 13.2

and 15.4.1) providing the land is an integral part of the treatment process or will be used for the ultimate disposal of residuals (e.g., sludge).

The reviewing agency should contract appraisal review if it does not have qualified in-house staff. For eligible land, you should not negotiate with the landowner before preparing a written statement of just compensation describing the basis upon which the offer price has been established and prior to receiving the reviewing agency's comments on the price to be offered. Generally, the offer price should be consistent with the amount established as just compensation. Some modest increase above the appraised value may be paid to avoid the cost, time and public relations problems involved with condemnation if approved by your reviewing agency.

Acquisitions of existing treatment works are generally ineligible for grant funding because they usually do not provide new pollution control benefits (i.e., pollution control services that are additional to those being provided before grant award). Conversely, the upgrade, expansion, or rehabilitation of a project that includes an acquisition does provide such benefits and, thus the upgrade, expansion or rehabilitation portion may be eligible although the acquisition portion is not. An example of an eligible acquisition would be a municipality's purchase of demonstrated excess treatment works capacity that was built without Federal funds and provides new pollution control benefits.

8.6.2 "NO COST ARRANGEMENTS"

Acquisition of land
for some purposes
such as sludge or

effluent application may not be necessary; only the right to use the land for this purpose needs to be secured. This can be done under no cost arrangements with a group of farmers so that the agricultural benefits from the effluent or sludge eliminate the need for rental or lease fees. Carefully scheduled intermittent sludge and effluent application arrangements of this nature can provide for disposal, but the value of the land is not allowable for grant participation because the community does not actually acquire any interest in the property itself.

8.6.3
ACQUISITION METHOD Certain land costs such as lease, easement or fee simple purchase are allowable for grant participation. The method of acquisition depends on cost effectiveness, public acceptability, feasibility and local circumstances.

A combination of public and private land ownership may be the best solution, i.e., the land required for preapplication treatment and seasonal storage might be publicly owned, while irrigated land could be leased from a farmer.

You may use your own property management standards and procedures for land that has been acquired in part or wholly with grant funds as long as they meet the minimum provisions of EPA's regulations. The sale or use of land for purposes other than those specified in the grant agreement is governed by EPA regulations 40 CFR Part 30. Record the government's interest in the title to the property.

Your lease or easement should contain conditions such as:

- o Limiting the purpose to land application of effluent or sludge management and complementary purposes;

- o Waiving the landowner's right to restoration at the termination of the lease/easement. (The Federal government cannot be responsible for removing irrigation systems, draining and filling ponds, etc.);

- o Landowner agreeing to apply a specified quantity of the community's wastewater or sludge to his land for a specified time period;

- o Providing these conditions for the useful life of the project; and

- o Providing for your full recovery of damages in the event of premature lease termination.

A copy of the proposed leasing agreement (contract) and other supporting materials should be presented in your facilities plan.

8.6.4

ALLOWABLE LAND COSTS

Land costs allowable for grant assistance include:

- o A reasonable amount of land including irregularities in application patterns, buffer areas, berms, dikes and similar uses where land is an integral part of the treatment process or used for the ultimate disposal of residuals; for example, to minimize the amount of land needed, sludge should be applied at the minimum safe rate (generally not less than 5 dry tons per acre per year);

- o Land required for the composting of sludge including its curing and temporary storage (if a program for use of the compost has been approved);

- o A soil absorption system for a group of two or more homes provided that the municipality has complete ownership and beneficial use of the land;

- o Ponds constructed specifically for temporary storage of treated wastewater prior to land application to meet seasonal imbalances between wastewater supply and application schedules. The total land area of the pond or cell constructed for combination treatment and storage purposes is allowable for grant funding if the storage volume is greater than the treatment volume. Otherwise, the grant fundable area will be determined by the ratio of the storage volume to the total volume of the pond (i.e., storage treatment volume);

- o Storage volume is that portion of a pond or cell which retains water prior to the water's application to the land; and

- o Treatment volume is that portion of a pond or cell specifically designed for biological stabilization of the wastewater.

Unallowable land costs including existing treatment works are discussed in Appendix A to 40 CFR Part 35 Subpart I of the regulations.

Revenue from the sale of crops grown on land purchased or leased under the grant agreement is to be used to offset the costs of O&M with a proportionate reduction in all user charges.

CHAPTER 9

REVIEW OF FACILITIES PLANS

9.0

REVIEW AND EVALUATION

The timing of review, approval, and certification of facilities plans will vary from State to State. Although State certification that a facilities plan satisfies all regulatory requirements is not required until the submission by the State to EPA of a Step 3 grant application, you are strongly encouraged to have your project reviewer evaluate your facilities plan before beginning project design. This evaluation will help ensure that all Federal and State statutory requirements are satisfied and that the project to be designed will meet the prerequisites for grant assistance. You are reminded that the environmental review (Section 9.2.2) must be completed before submission of any application. For rural communities of less than 10,000 population, the draft facilities plan should be submitted to the Farmers Home Administration (FmHA) for comments if they will be asked to participate in funding the project.

In addition to your reviewing agency's evaluation, solicit comments on your completed facilities plan from the appropriate agencies including the Water Quality Management (WQM) agency, if any. Agency review procedures and corresponding determinations of facilities plans are discussed in Section 9.2.

9.1

SUMMARY CHECKLIST

Summarized below are the major items considered during facilities planning.

Project Management

- o Prepare plan of study;
- o Conduct preplanning meeting with reviewing agency;
- o Arrange for local funds and advance of grant allowance as appropriate;
- o Document needs;
- o Organize project team and designate municipal project manager;
- o Prepare public participation program;
- o Coordinate with WQM agency if applicable;

Facilities Plan

- o Documentation of project need;
- o Population, flow, and loading forecasts;
- o Infiltration/inflow analysis, if applicable;
- o Use of generic plan for small communities if applicable;
- o Effluent limitations;
- o Alternatives development:
 - Land application;
 - Small alternative wastewater systems;
 - Appropriate technologies for small communities;
 - Centralized treatment;
 - Upgrading and optimal operation of the existing system;

- Innovative and alternative technology;
- Sludge use or disposal;
- No action;
- o Financial capability analysis;
- o Environmental evaluation of alternatives;
- o Alternatives evaluation based on:
 - Costs and financial impact;
 - Engineering feasibility;
 - Environmental impacts;
 - Public acceptance;
 - Implementability;
 - Energy/water conservation;
- o Public participation program;
- o Pretreatment;
- o Intermunicipal service agreements;

Facilities Plan review by

- o WQM agency;
- o State agency;

Project Administration:

- o Filing system;
- o Accounting records;
- o Force account.

9.2

STATE AGENCY REVIEW

While review and certification by the State of your completed facilities plan is not required until submission of your application, you are encouraged to request such a review prior to undertaking project design. In order for you to understand the actions required on the part of the State and

the decisions to be made by EPA concerning the review and approval of your facilities plan, a brief description of these actions is provided below. The facilities plan, along with comments from the appropriate WQM agency and interested State and local agencies, is submitted and reviewed by your State agency. The State will contact you for additional information, clarification or suggestions for change if appropriate. Upon resolution of any problems the State reviewing agency will be in a position to certify that:

- o There has been adequate public participation based on State and local statutes;
- o Within the scope of authority delegated to the State by EPA, the applicable Federal requirements for facilities planning have been met (see Section 13.1 for a complete listing of application requirements).

9.2.1

ADVANCED TREATMENT REVIEW

Where effluent limitations require additional treatment beyond secondary and where the incremental capital cost of the advanced treatment (AT) facility is greater than \$3 million, EPA headquarters will conduct the review based in part on information submitted by the State or EPA regional office. (See Appendix A for review of policy.)

For projects with incremental capital costs of \$3 million or less, the State or EPA regional office will conduct the review. The review must be completed prior to submitting a Step 3 grant application to EPA or the delegated State.

9.2.2

EPA ACTIONS UNDER NEPA An application for grant assistance may be considered only after the Regional Administrator has completed the appropriate environmental document (40 CFR Part 6). If your project was not issued a Categorical Exclusion, EPA will apply the criteria under the National Environmental Policy Act (NEPA) to determine whether an Environmental Impact Statement (EIS), or more commonly, a Finding of No Significant Impact (FNSI) should be prepared (Section 3.2.1). The decision by EPA is based on:

- o Your completed facilities plan where review of the facilities plan has not been delegated to the State; or

- o The State's preliminary environmental assessment where the State has been delegated authority for facilities plan review; and

- o Revised environmental analysis to reflect significant project changes made during design; and

- o Other documentation considered necessary by EPA to allow a determination.

If an EIS is not warranted, EPA will prepare and publish for public comment a FNSI. The decision not to prepare an EIS will be supported by an environmental assessment incorporated into or attached to the FNSI.

If EPA determines that significant adverse impacts which cannot be satisfactorily mitigated will result from your project, you will be notified prior to the publication in the Federal Register of a notice of intent to prepare an EIS. Notices of

record of decision may include the results of the intergovernmental coordination review (Section 2.3).

EPA will prepare the EIS either by direct use of agency staff, or by contract with a consultant. When the need for an EIS is determined before completion of facilities planning, the joint EIS/EID approach can be used (Section 3.2.13).

The EPA regulations (40 CFR Part 6) outline detailed procedures and criteria to be followed in the process of EIS preparation. Grant assistance may not be awarded until a final EIS has been prepared and all regulatory requirements have been met. However, action may continue on discrete segments of the project before the environmental review is complete, under certain conditions (Section 13.2).

PART II. DESIGN

CHAPTER 10

PREDESIGN

10.0

PREDESIGN CONFERENCE

A pre design conference with your reviewing agency and your design team after facilities plan approval, while not required, is strongly recommended. When Farmers Home Administration (FmHA) or other sources are being considered as funding sources for the local share, their representation at this conference is recommended (Appendix F). The predesign conference will provide an opportunity to review Federal and supplementary State administrative, technical, and environmental requirements for design as well as other grant application requirements. Examples of other requirements which might be discussed include:

- o Field testing of innovative or alternative technology designs (Section 10.1);
- o Value engineering review (Section 12.1);
- o Future funding;
- o Necessary permits;
- o User charge system and sewer use ordinance (Sections 12.2 and 12.3);
- o Timing and dollar amount of grant assistance (Section 13.5);
- o Plan of operation (Section 12.4);
- o Land acquisition (Section 8.6);

- o Intermunicipal service agreements (Section 8.5.1);

- o Pretreatment (Section 8.5.4);

- o Reviewing agency's environmental review of project (Section 9.2);

- o Infiltration/inflow investigation (Section 5.4);

- o Combination Step 2+3 grant (Introduction-Managing Your Project, Section 13.2).

Prior to the conference you may wish to prepare a brief description of the activities you will perform during the design phase of your project. The description could be similar to the plan of study (Section 2.2) and address milestones, schedule and other aspects of your project.

One aspect of project design which should be clarified concerns the level of detail of the design work to be submitted to your reviewing agency. For example, some architect/engineers prepare design engineering reports which show the assumptions and calculations used to size various components of the treatment works. Items such as surface settling rates, weir overflow rates, detention times, pump system head curves, volume of various tanks, etc., are very often included in these reports. The reviewing agency may or may not wish to review the assumptions, design criteria and calculations prior to the preparation of the drawings. In any case, prudent project management suggests that a predesign conference take place and that all significant project design criteria be reviewed.

10.1*

FIELD TESTING OF INNOVATIVE OR ALTERNATIVE TECHNOLOGY Field testing of a proposed innovative (I&A) technology project is intended

to provide an additional increment of verification of its performance capability under the circumstances of use.

The costs associated with field testing of proposed innovative or alternative projects can be allowable for grant participation as a preaward cost (if approved by your reviewing agency) or as a separate grant. A separate field test grant may be made at any time. Approval of preaward costs for a field test should be scheduled to be consistent with construction award. In some cases, field testing may require the construction, lease, or use of relatively large structures. Discuss this aspect with your project reviewer, and ensure that there is agreement before proceeding.

Applicants proposing field testing should provide a detailed explanation of why testing is required. Justification may be based on concepts such as:

- o Reducing the element of risk;
- o Increasing confidence in design criteria and/or performance standards;
- o Substantiating projections of cost or energy savings or significant environmental or conservation benefits, when compared with conventional technology.

The size of a field testing facility may range from pilot to full scale and should be determined by considering the following items:

- o Principal components sized such that physical, chemical or biological processes are accurately simulated;

- o Process variables normally expected in full-scale application are simulated;

- o Variations in influent characteristics which will significantly affect performance in full-scale application are anticipated and simulated;

- o Duration of testing will ensure process equilibrium and allow adequate forecasting of the service life for unique equipment;

- o Full control of all major process variables including side streams and need for process additives;

- o Basic process safety, environmental and health risks evaluated and found to be within acceptable limits.

A program of field testing should reflect practical and efficient use of existing facilities or newly constructed facilities. Elements of project design that may be field tested include portions of projects that potentially qualify as innovative or alternative (I or A) technology based on the evaluation in your facilities plan and include complete systems, unit processes, proprietary equipment and devices or modifications and improvements of existing technology.

When the field test is to collect and evaluate actual environmental measurements or data, your field test program must include a quality assurance program in accordance with EPA regulations (Section 4.4).

- o A final design report on the field testing program must be prepared and submitted to the Regional

Administrator and the reviewing agency. The report should contain information such as the procedures, cost, results and conclusions of the field testing, quality assurance requirements, if necessary, or any other information which the reviewing agency requires. Field testing should not be considered where its use would delay construction of needed facilities beyond dates necessary for compliance with NPDES permit schedules or approved extensions.

A copy of the final report on the results obtained from the field testing program should also be submitted to the U. S. Environmental Protection Agency's Office of Water Program Operations, Washington, D. C., for information purposes only.

CHAPTER 11

DESIGN AND ADMINISTRATIVE CONSIDERATIONS

11.0

DESIGN AND ADMINISTRATIVE CONSIDERATIONS

Treatment works are designed by an architect engineer (A/E) registered in the State in which the project is to be constructed. In designing treatment works the A/E will employ sound design principles and place his seal on the construction drawings and specifications. In addition, the A/E will employ State design criteria where applicable. However, based on past experiences and applicable Federal statutes, EPA has established several basic policies concerning the design of treatment works and administrative requirements that are to be included in the construction drawings and specifications.

Wastewater treatment works should be designed to provide requisite and adequate facilities in an architectural style and form which is in harmony with its natural surroundings. When appropriate, specific attentions should be paid to the design features of facilities that are in close proximity to other buildings, incorporating into such designs qualities which reflect the regional architectural traditions of that part of the nation in which the facilities are located. Designs should adhere to sound construction practice and utilize materials, methods and equipment of proven dependability. Buildings should be economical to build, operate, and maintain, and should be accessible to the handicapped (Section 11.1.21).

11.1

DESIGN

CONSIDERATIONS

The following sections set forth EPA's policies concerning the design of treatment works. These policies are not complete design standards and should be used only to supplement State standards.

11.1.1

PRETREATMENT AND NPDES PERMIT

Pretreatment in the context used in this book is directed only to nonresidential sources of wastes discharged into your treatment system. The objectives of pretreatment are to prevent the introduction of pollutants which may pass through or interfere with your treatment process or contaminate your effluent and/or sludge, thereby limiting your options. Failure to attain the objectives may lead to a violation of your National Pollution Discharge Elimination System (NPDES) permit. During facilities planning you should have had preliminary discussions with your reviewing agency concerning your NPDES permit and your pretreatment requirements (Section 8.5.4). If your project will treat wastes from nonresidential sources, it is recommended that you determine from your project reviewer the necessary actions to satisfy pretreatment requirements.

11.1.2

WET AND DRY WELL CLASSIFICATIONS

Decomposition of wastewater can generate explosive gases. In addition, volatile products, such as gasoline or industrial solvents, may be inadvertently or illegally introduced into the sewerage system. Where pumping is necessary, wastewater is

generally stored for a relatively short time in a holding tank called a wet well, where sewage gas or other volatiles may accumulate. The wastewater remains in the wet well until a control signal turns the pumps on and lowers the liquid level to a predetermined elevation. Pumps, motors, and electrical equipment are sometimes located in the wet well and may present an ignition source if explosive gases are present.

Your design should take this hazard into account and include features to preclude the possibility of an explosion as well as possible injury of workers due to the inhalation of potentially toxic gases. Equipment located in wet and dry wells should be designed to minimize the potential for explosion, and areas subject to buildup of gases should be ventilated. Explosion proof classification of wet and dry wells as Class I and either Division 1 or 2 (National Electrical Code) should be made on a case-by-case basis and depends on the type of sewer system, the probability of hazardous gases being present, and the type of ventilation used.

Strict enforcement of the sewer use ordinance and the development of specific contingency plans (included in the Operation and Maintenance (O&M) manual) to combat accidental or illegal discharge of compounds is encouraged. Guidance containing good engineering practice for design of wet and dry wells is contained in Appendix H of this book.

11.1.3

USE OF MERCURY SEALS

Mercury is a toxic and hazardous substance. It should be used with extreme care in trickling filter flow distributors and

comminutor seals. Problems with conversion of older trickling filter rotary distributors from mercury seals to mechanical seals may require special consideration. If it is anticipated that significant additional cost, or operating or maintenance problems associated with such conversions will arise, you should consult with your project reviewer. It may be determined after consultation and evaluation of other alternatives that continued use of mercury seals is the best solution. To prevent violation of Section 307(a) of the Clean Water Act (CWA) you should submit a written request for use of mercury seals to your reviewing agency for approval. This request should address the following issues:

- o Agreement to comply with all applicable provisions of the Resource Conservation and Recovery Act (RCRA), especially Subtitle C regulations pertaining to the management of sludges with concentrations of mercury that cause the sludge to be classified as hazardous (Section 11.1.7);

- o Acknowledgement that you can be held liable for any damages related to the discharge of mercury contaminated effluent or sludge;

- o Establishment of a mercury spill monitoring program including an annual mercury inventory;

- o Establishment of an emergency response program which provides for the safe disposal of effluent and/or sludge contaminated with mercury and a program for immediately notifying all downstream water users of possible mercury contamination;

- o Modification of your NPDES permit to identify a potential mercury contamination hazard.

Mercury float switches have been used in treatment works for several years with no reported failure where mercury was discharged to the wastewater. For that reason, and since mercury float switches contain small amounts of mercury (usually less than 15 grams), those switches and other equipment containing similarly small quantities of mercury may be used in treatment works. It is anticipated that care will be exercised when specifying equipment using small amounts of mercury, and consideration will be given to provisions for assuring self-containment, and corrosion resistance.

Reviewing agencies may specify additional requirements for assuring that applicable provisions for use of mercury have been addressed before construction drawings and specifications are approved.

11.1.4

SHELLFISH WATERS If your project proposes to discharge effluent into shellfish-growing waters, the environmental impacts will have been evaluated in your facilities plan and by your reviewing agency. The environmental evaluation in all likelihood will have recommended measures to minimize the adverse impacts of the discharge upon shellfish. These recommendations should be carefully considered during project design. However, in addition to these recommendations the following considerations should be taken into account during the design phase of your project.

Equipment, unit processes and the overall treatment process should be designed to provide a Reliability Class I (Section 11.1.14). In general, this reliability class

defines the redundancy of system components or provision for adequate capacity when one component or unit process is out of service.

Discharge in close proximity to shellfish harvesting areas should be avoided wherever possible. State environmental protection authorities and shellfish regulatory agencies should be contacted for further design requirements if this is unavoidable.

11.1.5

DISINFECTION

Disinfection of wastewater prior to discharge has long been practiced and, in many cases, is required by State agencies to protect public health. Chlorination of effluent has been, and continues to be, the most widely used method of disinfection. Because of the potential toxic effects of chlorination on aquatic wildlife, chlorination plus dechlorination or alternative disinfection methods such as ozonation or ultraviolet radiation or other cost-effective disinfection techniques should be considered for sensitive areas.

If the disinfection requirements are not addressed in the draft NPDES permit for the treatment facility, the issue should have been resolved during facility planning. However, if the issue was not resolved at that time, it should be discussed with your State agency at the predesign conference.

11.1.6

CHLORINATION SYSTEMS USING GASEOUS CHLORINE

Where disinfection is required (Section 11.1.5) and chlorination with gaseous chlorine has been selected, several considerations should be taken into account during design.

While chlorination is an effective disinfectant, it also presents potentially dangerous conditions when used improperly or accidentally leaked. In the worst case chlorine can cause death by suffocation or severe burns when brought in contact with skin and eyes. When combined with small quantities of water, chlorine can become highly corrosive. Therefore, chlorination systems should be designed to prevent chlorine leaks, to ensure the quick and safe handling of any chlorine leaks, and to minimize operator and local resident exposure.

The discussion below represents EPA's technical guidance and the basis for minimum adequacy in safety considerations and should be used to supplement (not replace) other safety requirements and regulations such as those published by the Occupational Safety and Health Administration (OSHA). This section deals with design considerations and represents good engineering practice.

Design Considerations

- o Where chlorine or chlorination equipment is stored or installed in a building used for other purposes, a gas-tight partition should separate the chlorination room from other parts of the building, doors should be equipped with panic hardware and open to the outside at ground level and storage and feed areas should be separated.

- o A clear-glass, gas-tight window should be installed in the exterior door or interior wall of the chlorination room to permit viewing without entering the room.

- o Chlorination rooms should be heated to 50°F and the chlorination

feed equipment room 5-10°F higher; containers should be shielded from direct sunlight to avoid overheating above 140°F and should be stored with level rails or cradles designed for this purpose.

- o Forced mechanical ventilation should provide a complete air change every 4 minutes with inlets and outlets at opposite ends of the room; exhaust outlets should be at floor level since chlorine gas is heavier than air.

- o Exhaust equipment should be activated by external light switches or other automatic systems such as door activated mechanisms.

- o Emergency showers and eye baths should be located external to, but close by, the chlorination room.

- o An automatic chlorine detection system should be provided for facilities with capacity of 1 million gallons per day (mgd) or more and activate sound alarms, flashing lights, notification to operator's area or police department, or other measures to ensure emergency response. Smaller capacity treatment facilities should also consider use of detention and alarm systems where the benefits warrant the additional cost.

O&M Design Considerations

- o Rail delivery of chlorine is to comply with Department of Transportation regulations (49 CFR 174.560) and, in general, provide dead-end sidings used only for chlorine delivery.

- o Chlorine cylinders should be lifted with forklift trucks and other hoisting equipment equipped with special cradles or carriers designed

for such purposes; chains, rope slings, or magnetic hoists should never be used.

- o Tank barge unloading is to comply with U.S. Army Corps of Engineers and Coast Guard regulations.

- o One-ton cylinders should be stored on cradles or pairs of level rails. One hundred and 150-pound cylinders should be secured with safety chains and should never be piled on top of one another, nor stored with other compressed gases; empty containers should be tagged appropriately and stored separately from full cylinders; and cylinder emergency repair kits should be readily available.

- o Self-contained positive pressure headgear with self-contained compressed air supply and full face piece should be located away from areas likely to be contaminated, but should be convenient and available for emergency use; additional (spare) air supply cylinders should be provided; and, routine training, inspection and cleaning of emergency equipment should also be provided.

- o Piping and valves in chlorine rooms should be color coded and labeled.

11.1.7

CHEMICAL STORAGE AND HAZARDOUS MATERIALS All chemicals should be stored and curbed with provisions to hold the entire volume of chemical material in the event of an accidental spill. In addition, adequate safety protection gear is to be provided for plant disposal of chemicals; hazardous materials may be subject to the provisions of the Resource Conservation and Recovery Act (RCRA) and the Toxic Substances Control Act.

Sewage Sludge

The storage, transport, and disposal of sewage sludge may be subjected to the hazardous waste regulations implementing the RCRA (Section 6.7). Regulatory agencies have generally not classified sewage sludge as a hazardous waste. Rather, it is up to each municipality to determine if its sludge is hazardous based on the types of industrial waste discharged into the system or by laboratory testing if deemed necessary. The characteristics of a hazardous waste include: ignitability, corrosivity, reactivity, and extraction procedure (EP) toxicity. In general, the characteristic most likely to cause a sludge to be hazardous would be the toxicity level as determined by the EP test (40 CFR Part 261).

If a municipal sludge is hazardous, the municipality must obtain a hazardous waste identification number (40 CFR Part 261) and may need a permit to treat, store, or dispose of sludge for volumes greater than 1,000 kg (455 pounds) per month.

A publicly owned treatment works which accepts hazardous waste for treatment is deemed to have a RCRA permit ("Permits by Rule" (40 CFR 270.60)) if it meets the following conditions:

- Compliance with its NPDES permit;
- Compliance with notification, recordkeeping, and report requirements of 40 CFR Part 264;
- Compliance with applicable pretreatment requirements (40 CFR Part 403).

The results of the pretreatment studies conducted during or after

facilities planning or the requirements of the NPDES permit program may require nonresidential dischargers to pretreat their wastes, eliminating those chemicals which could cause your sludge to be classified as hazardous. If it is possible that your sludge may be classified as a hazardous waste, you should contact your reviewing agency during design to initiate procedures for obtaining a permit as a generator, storer, transporter, and disposer of hazardous wastes.

11.1.8 SAFETY

The specifications will require contractor compliance with OSHA's regulations and applicable State requirements. In addition, the specific design considerations for chlorine systems, chemical storage and handling, and wet well classifications as described in earlier sections should be taken into consideration. A comprehensive ongoing safety program during construction and treatment plant operation should be developed.

11.1.9 BYPASSING OF SEWAGE

Avoid bypassing of flows from sewers or treatment facilities during construction except where absolutely essential and with specific approval from your reviewing agency. Eliminate existing bypasses and include provision in new facilities for temporary storage and treatment of all flows. Any bypassing to the receiving stream can only be authorized by the NPDES permit.

11.1.10 PUBLIC WATER SUPPLY

Use State-approved backflow preventers to protect public

water supplies from the possibility of contamination.

11.1.11

VENTILATION

Adequate ventilation should be provided to eliminate hazardous working conditions. Specific requirements for chlorine systems and wet/dry wells are given in Sections 11.1.2 and 11.1.6 of this book. Adequate ventilation should also be considered for chemical storage areas, buildings, laboratories, enclosed structures, and sludge handling and digestion areas.

11.1.12

LABORATORY FACILITIES

Laboratory facilities should be adequate to conduct sampling and testing required to properly control the treatment process, and to provide the report data required by the NPDES permit or reviewing agency. Alternatively, provision may be made for testing by commercial laboratories, universities or other facilities equipped to perform the necessary tests.

11.1.13

EMERGENCY ALARMS

Emergency alarms should be provided to alert operators or other officials of malfunctions in system components. Highest priority should be provided to systems which endanger operator or public safety or cause a complete system failure resulting in discharge of inadequately treated sewage.

11.1.14

EQUIPMENT AND MATERIALS

It is important that you provide information to your A/E to ensure compliance with EPA procurement regulations (40 CFR

Part 33) for preparation of specifications, selection of equipment and materials, and other related items.

Nonrestrictive Specifications

Specifications must be written to encourage maximum, free and open competition. Specifications are not to contain proprietary, exclusionary or discriminatory requirements for structures, materials, equipment or processes other than those based on performance with two exceptions:

- o Where it is necessary to provide for interchangeability of parts of equipment;

- o Where it is necessary to test or demonstrate or promote a specific thing (for example, innovative technology or techniques).

When in your judgment it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a "brand name or equal" description may be used as a means to define the performance or minimum salient requirements. In so doing, you need not establish the existence of any source other than the brand or source so named. You must clearly state in the specifications the salient requirements of the named brand which must be met by the offerors.

With regard to materials such as pipe or chemical grout, it is not mandatory that two or more types of material be specified. In general, it is preferable to use performance specifications for materials based upon accepted nationally-known standards. In the case of pipe, for example,

these standards may be American Water Works Association, American Society of Testing and Materials, or Federal specifications and standards.

If it is necessary to use a restrictive specification which reflects minimum essential performance needs, you should justify its use in writing to the reviewing agency prior to the issuance of the specifications and be prepared to defend your justification in the event of a protest (Section 16.11).

Noncompetitive Procurement

Noncompetitive negotiation is allowed when it can be demonstrated that a particular technology is unproven and has a high risk associated with it, and the reviewing agency approves the noncompetitive procurement. Noncompetitive negotiation requires the submission of a cost analysis. The analysis includes a review of direct costs (materials, labor, etc.), indirect costs (overhead, general, and administrative expenses), and profit. Costs are typically subject to audit.

Qualification of Major Items of Equipment

The qualification of major items of equipment before receipt of bids for construction is optional. This procedure may be used to ease the administrative burden of determining responsive, responsible suppliers on equipment. In all cases, the equipment furnished must comply with the specifications and qualified suppliers may be rejected as nonresponsive on the basis of subsequently furnished information.

The A/E prepares a qualification information package which contains enough specific detail regarding performance and quality to assure that

equipment suppliers will thoroughly understand what is required. Adequate advertisement (30 days minimum or as required by State law) or direct contact is made with new and established manufacturers, small, minority and women's business enterprises to ensure each has an opportunity to compete. Date, time, and place of qualification information are given in advertisements and direct contacts.

Evaluation of the qualification submittals should be made by the A/E and reported to you. All proposers are notified of their status. Protests, if any, should be handled in accordance with the procurement regulations (Section 16.11).

Equipment and Process Compatibility

Recognizing the requirements for free and open competition, the resulting uncertainty of equipment selection and its incorporation into the treatment system, construction drawings and specifications should be reviewed to ensure equipment and process compatibility. In many cases, shop drawings from successful suppliers will be insufficient to ensure compatibility of operation and control of an integrated total treatment system. It is, therefore, essential that the A/E thoroughly reviews unit process, interfaces with respect to mainstream process performance characteristics and control, and the impact of sidestream and overall system controllability.

Attention should be given to the adequacy of equipment and material warranties and guaranties to support the intended performance of unit processes and overall treatment objectives.

Material and Storage of Equipment

Materials and equipment should be properly stored at the construction site. The specifications should include a provision directing contractors to obtain and implement storage procedures as recommended by the manufacturer.

Reliability

Your publicly owned treatment works (POTW) is expected to adhere to its monthly, weekly, and daily permit limits. Therefore, your treatment facilities, including sludge handling systems, should be designed, constructed, and operated to ensure reliable total system performance over the life of the project as necessary to:

- o Protect public health;
- o Achieve water quality and pollution control objectives for both surface and groundwater;
- o Prevent environmental damage.

Design practices necessary to ensure reliable performance should be cost-effective.

Reliability can be designed into a project by one of two methods: (1) a separate analysis of risks, costs and benefits or (2) the use of generally recognized criteria, such as State standards or the suggested design features described in this chapter. Your A/E generally will select the most appropriate method.

In the first method, determination of the level of reliability required should consider:

- o Total cost including capital cost, O&M costs and the cost of failure (if this can be costed) times the probability of failure;

- o Size and relative contribution of excessive wastewater pollutant loadings, compared to uncontrolled sources (e.g., nonpoint source pollutant loadings);

- o Magnitude, duration and frequency of excessive pollutant loadings in comparison to receiving water quality and assimilative capacity;

- o Stability or persistence of pollutant in the receiving waters.

These factors identify and quantify the consequences of failure as the basis for design levels of total system reliability.

In the second method, techniques are employed to designate surface or groundwaters by their use and to select a corresponding treatment level and class of reliability for the treatment facilities. Treatment levels are defined in "Alternative Waste Management Techniques for Best Practicable Waste Treatment" (Section 6.4) with the greatest level of treatment given to surface waters used for public drinking water supply, water contact recreation, shellfish, and fisheries.

The reliability class for treatment facilities is designated based on the use of the receiving waters and the probable adverse impact of inadequately treated discharge on them. Reliability classes may be:

- o Class I - treatment works which discharge into navigable waters that could be permanently or unacceptably damaged by effluent which is degraded

in quality for only a few hours (e.g., discharges near drinking water sources, into shellfish waters or in close proximity to areas used for contact sports);

o Class II - treatment works which discharge into navigable waters that would not be permanently or unacceptably damaged by short-term effluent quality degradation but could be damaged by continued (several days) effluent quality degradation (e.g., discharges into recreational waters);

o Class III - treatment works not otherwise designated as Class I or II.

Each class is broadly defined for each of the three major systems within a treatment facility: (1) wastewater treatment system, (2) sludge handling and disposal system, and (3) electric power system. For each of the three major systems, recommendations common to each class and component backup recommendations for each separate class are summarized in Tables 1, 2, and 3.

These recommendations should be confirmed with your reviewing agency to ascertain if your State requirements are more stringent.

11.1.15

LAND APPLICATION SYSTEMS The design of land application systems for wastewater and sludge should be based on:

o "Process Design Manual, Land Treatment of Municipal Wastewater" (EPA 625/1-81-013);

o "Design Manual, Onsite Wastewater Treatment and Disposal Systems" (EPA 625/1-80-012);

o "Process Design Manual for Sludge Treatment and Disposal" (EPA 625/1-79-011);

o "Costs of Wastewater Treatment by Land Application" (EPA 430/9-75-003 - Revised 1979);

o "Innovative and Alternative Technology Assessment Manual" (EPA 430/9-78-009);

o "Process Design Manual, Land Application of Municipal Sludge" (EPA 625/1-83-016).

The specifications should also address protection of soil integrity during construction. For example, onsite system trench construction for the soil absorption system should not take place during wet weather where clays are present, equipment travel should avoid infiltrative surfaces and special attention should be given to grade, bedding, and backfill materials. For land treatment systems, the land surface should be disturbed as little as possible or restoration techniques (plowing, discing) should be employed wherever necessary. Limitations on the size and weight of the construction equipment and climatic conditions during which construction may not take place should be included in the specifications, especially for land-based systems.

11.1.16

EROSION AND SEDIMENT CONTROL During the environmental evaluation of your project in the facilities planning stage, the potential for soil erosion and sediment buildup in water bodies, wetlands or floodplains was considered. In all likelihood, the environmental information document

Table 1 Wastewater Treatment System Reliability

WASTEWATER TREATMENT SYSTEM			
<u>Features Common to Class I, II, III:</u>			
Trash removal or comminution			
Grit removal - not applicable to treatment works which do not pump or dewater sludge (e.g., stabilization ponds)			
Provisions for removal of settled solids - applicable to channels, pump wells, and piping prior to degritting or primary sedimentation			
Holding basin - applicable to Class I with adequate capacity for all flows			
Unit operation bypass - not applicable where two or more units are provided and operating unit can handle peak flow; applicable to comminution regardless of number of units			
<u>Component Backup Features</u>	<u>Class I</u>	<u>Class II</u>	<u>Class III</u>
Backup bar screen for mechanically cleaned bar screen or comminutor	Yes	Yes	Yes
Backup pump	Yes ^a	Yes ^a	Yes ^a
Primary sedimentation basins	Multiple basins ^b	Multiple basins ^b	Minimum, two ^b
Trickling filters	Multiple filters ^c	Multiple filters ^b	No backup
Aeration basin	Minimum of two of equal volume	Minimum of two of equal volume	Single basin permissible
Aeration blowers or mechanical aerators	Multiple units ^d	Multiple units ^d	Minimum, two ^d
Air diffusers	Multiple sections ^e	Multiple sections ^e	Multiple sections ^e
Final sedimentation basins	Multiple basins ^c	Multiple basins ^b	Minimum, two ^b
Chemical flash mixer	Minimum of two or backup ^f	No backup	No backup
Chemical sedimentation basins	Multiple basins ^c	No backup	No backup
Filters and activated carbon columns	Multiple units ^c	No backup	No backup
Flocculation basins	Minimum, two	No backup	No backup
Disinfectant contact basins	Multiple basins ^c	Multiple basins ^b	Multiple basins ^b

^aSufficient capacity of remaining pump to handle peak flow with one pump out of service

^bWith largest unit out of service remaining units have capacity for at least 50 percent design flow

^cWith largest unit out of service remaining units have capacity for at least 75 percent design flow

^dWith largest unit out of service remaining units able to maintain design oxygen transfer; backup unit may be uninstalled

^eWith largest section out of service oxygen transfer capability not measurably impaired

^fIf only one basin, backup system provided with at least two mixing devices (one may be installed)

Table 2 Sludge Handling and Disposal System Reliability

SLUDGE HANDLING AND DISPOSAL SYSTEM	
<u>Features Common to Class I, II, III:</u>	
Alternate methods of sludge disposal and/or treatment - applicable to unit operations without backup capability	
Provisions for preventing contamination of treated wastewater	
<u>Component Backup Features Common to Class I, II, III:</u>	
Sludge holding tanks - permissible as alternative to backup capability with adequate capacity for estimated time of repair	
Backup pump - sufficient capacity of remaining pumps to handle peak flow with one pump out of service; backup pump may be uninstalled	
Anaerobic sludge digestion	
Digestion tanks - at least two digestion tanks	
Sludge mixing equipment - backup equipment or flexibility of system such that with one piece of equipment out of service total mixing capability is not lost; backup equipment may be uninstalled	
Aerobic sludge digester	
Aeration basin - backup not required	
Aeration blowers or mechanical aerators - at least two units: permissible for less than design oxygen transfer with one unit out of service; backup unit may be uninstalled	
Air diffusers - with largest selection out of service oxygen transfer capability not measurably impaired	
Vacuum filter - multiple filters with capacity to dewater design sludge flow with largest capacity filter out of service; each filter serviced by two vacuum pumps and two filtrate pumps	
Centrifuges - multiple centrifuges with capacity to dewater design sludge flow with largest capacity centrifuge out of service	
Incinerators - backup not required; backup required for critical auxiliary components (e.g., center shaft cooling fan)	

Table 3 Electric Power System Reliability

ELECTRIC POWER SYSTEM			
<u>Features Common to Class I, II, III:</u>			
Power sources - two separate and independent electric power sources from either two separate utility substations or one substation and one standby generator.			
<u>Capacity of backup power source</u>	<u>Class I</u>	<u>Class II^a</u>	<u>Class III^a</u>
Mechanical bar screen or comminutors	Yes	Yes	Yes
Main pumps	Yes	Yes	Yes
Degritting	Optional	No	No
Primary sedimentation	Yes	Yes	Yes
Secondary treatment	Yes	Optional	No
Final sedimentation	Yes	Optional	No
Advanced waste treatment	Optional	Optional	No
Disinfection	Yes	Yes	Yes
Sludge handling and treatment	Optional	No	No
Critical lighting and ventilation	Yes	Yes	Yes

^aAt least treatment equivalent to sedimentation and disinfection.

recommended employing mitigating procedures during design and construction of the project to provide erosion and sediment control. You should ensure that these erosion and sediment control measures, addressed in your facilities plan, are incorporated in the design and construction phases of your project. Such measures should include:

- o A schedule that provides for the construction of structures as soon as possible after clearing and grading;

- o Specifications for temporary and permanent measures to be used for controlling erosion and sediment;

- o A list containing completion dates for each temporary and permanent measure for controlling erosion and sediment; location, type and purpose for each measure; and dates when temporary measures will be removed or replaced;

- o Soil or landscaping maintenance procedures (should be included in the O&M manual).

11.1.17

MITIGATION OF ADVERSE ENVIRONMENTAL IMPACTS

During project design, you should review the recommendations for mitigation of adverse environmental impacts contained in your facilities plan (Section 3.2.12) or in the reviewing agency's environmental assessment and incorporate appropriate mitigation measures into the project design. Failure to incorporate mitigation measures will result in a determination that the design is inconsistent with the facilities plan, thus potentially delaying the funding of your project.

11.1.18

SEWERS

Sewers should be designed to maintain minimum scouring velocities and have adequate capacity to accommodate flows based on appropriate peaking factors. An allowable rate of infiltration for sewers should be specified and confirmed by tests after installation. Additional information regarding the infiltration and inflow into sewer systems is included in Section 5.4.

11.1.19

SEWER

REHABILITATION

Where sewer system rehabilitation is required based on the conclusions of the sewer system evaluation, the specifications and bid proposals should include unit prices for such items as: internal closed-circuit television monitoring (TV), sewer line cleaning, pressure testing, chemical grouting of joints, slip lining, or any other item of work that lends itself to unit pricing. In addition, the specifications should define the sequence of operations (cleaning, TV, pressure test, grouting) and the approval authority necessary to perform each operation.

11.1.20

OPERATION AND MAINTENANCE

The proposed design should provide for flexibility in operation (e.g., bypassing of individual unit processes or components), flexibility between units (e.g., varying mode of operation), and easy access to equipment requiring routine maintenance (e.g., greasing of bearings or changing of lubricants), or repair.

11.1.21

HANDICAPPED ACCESS

In accordance with EPA Nondiscrimination Regulations

(40 CFR Part 7) your project must be operated to be readily accessible to handicapped persons. New facilities (and, to the extent feasible, alterations to existing facilities) must be designed and constructed to be accessible to the handicapped. You are not, however, required to provide such access to buildings or parts of buildings that because of their intended use do not require public access or result in employment of the handicapped. In addition, your Step 3 grant applications must include certain assurances of future compliance and a completed form 4700-41, used in the construction grants program to monitor discriminatory practices in the provisions of wastewater treatment services.

Compliance with these regulations in no way releases you from compliance with all other applicable laws, regulations, and executive orders regarding nondiscrimination (Section 8.5.2).

11.1.22

USE OF RECOVERED MATERIALS

The Resource Conservation and Recovery Act requires procuring agencies, using appropriated Federal funds, to purchase items composed of the highest percentage of recovered material practical. EPA has recently published final guidelines (40 CFR, Part 249) for the Federal procurement of cement and concrete containing fly ash).

As a procuring agency, you should include provisions in construction contracts and construction specifications that allow for the use of concrete and cement, including products such as pipe and block, which contains fly ash. This applies to

all of your EPA construction grant projects, unless the use of fly ash can be determined to be inappropriate for technical or economic reasons documented by you, your design A/E, or other qualified person. You should also establish a review process to resolve disputes concerning exclusion of cement and concrete containing fly ash.

11.2

ADMINISTRATIVE CONSIDERATIONS Chapter 16 addresses procurement. It describes procedures which allow you to use your own procurement system or alternatively the minimum requirements to be followed when using EPA's procurement system. The sections that follow discuss administrative provisions of the procurement regulations applicable to the preparation of project and bidding documents.

11.2.1

BIDDING DOCUMENTS

Bidding documents are prepared by your A/E and include:

- o A complete statement of work to be performed, including where appropriate, construction drawings and specifications, complete cost proposal (separated into allowable and unallowable categories), and the required performance schedule;

- o The terms and conditions of the subagreement to be awarded, including where appropriate, payment, delivery schedules, point of delivery and acceptance criteria;

- o A clear explanation of the methods of bidding and of evaluating bid prices, and the basis and method for awarding the subagreement;

o The responsibility requirements or criteria which will be employed in evaluating bidders;

o The prevailing wage determination made under the Davis-Bacon Act, if applicable; and

o The deadline and place to submit bids and a copy of the EPA Procurement Regulations (40 CFR 33.295, Subparts F and G) and EPA form 5720-4 "Labor Standard Provisions for Federally Assisted Contracts." A copy of EPA procurement regulation (40 CFR, Part 35) are included in Appendix N.

It may be to your advantage to require the contractor to provide detailed, as opposed to lump sum bids. Such detailed information would make it easier to determine the reasons for cost overruns, to detect bid rigging, to calculate incremental costs, and to develop more accurate construction cost data. When detailed information is needed, the bid forms should be kept as simple as possible.

Other provisions of the procurement regulations applicable to construction of the project are briefly described below.

11.2.2

BONDING AND INSURANCE

Contracts under \$100,000 are subject to State and local

requirements for bid guarantees, performance and payment bonds. For contracts in excess of \$100,000 you may (a) use your own requirements for these items provided the reviewing agency determines that the Government's interest is adequately protected or (b) require a 5 percent bid guarantee and 100 percent performance and payment bonds. Bonds must be obtained from companies holding certificates of authority

as acceptable sureties. Bond payment provisions should ensure prompt payment in the event of nonperformance.

Contractors should be required to obtain construction insurance (e.g., fire and extended coverage, workmen's compensation, public liability and property damage, and "all risk", builder's risk, or installation floater coverage) as required by State or local law.

Flood Insurance

Flood hazard areas have been delineated on Flood Hazard Boundary Maps or Flood Insurance Rate Maps issued by the Department of Housing and Urban Development. If flood hazard areas in your community are delineated in one of these maps, your participation in the Federal Emergency Management Agency's flood insurance program is a prerequisite for Step 3 grant assistance. You will have to provide adequate flood protection insurance for structures and their contents if located in flood hazard areas, both during construction (specifications generally require the contractor to provide this insurance during construction) and for the useful life of the project. Insurance is necessary on new or reconstructed surface structures which are walled or roofed (e.g., control building or pumping station) and have a value of \$10,000 or more.

For larger structures, you may find it prudent to purchase insurance at your own expense in addition to the \$200,000 maximum provided under the National Flood Insurance Program.

11.2.3

CONSTRUCTION INCENTIVE PROGRAM

A construction incentive (CI) program should be included in the

contract documents if the eligible construction costs exceed \$1 million. The CI program allows the prime contractor to propose changes in the project which will (a) provide at least a \$50,000 gross capital savings, and (b) result in a net saving (using a cost-effectiveness analysis) over the life of the project. If the CI change proposal is approved by the project design engineer and the reviewing agency and the net capital savings is \$1 million or less, the contractor would receive 50 percent of the net capital savings. Above \$1 million, the contractor would receive \$300,000 plus 20 percent of the net capital savings.

The CI clause must be included in the approved contract documents before bids, i.e., it may not be added by a change order after bids are received. The CI clause, including procedures for obtaining approval, is discussed in Appendix I.

11.2.4

BUY AMERICAN

The CWA requires that preference be given to domestic construction materials in EPA grant-assisted projects. The preference is limited to 6 percent above the bid or offered price on foreign materials (including duties whether or not assessed). Some construction materials manufactured in the United States include both domestic and foreign components. If the construction material has foreign components representing 50 percent or more of the value of the product, the entire product is considered to be foreign.

The "Buy American" clause in EPA's procurement regulations (40 CFR 33.710) is to be included in all EPA grant-assisted projects. The

reviewing agency may waive this requirement where appropriate.

11.2.5

ROYALTIES

Reasonable royalties associated with the procurement of the right-to-use or the rights in a patented product, apparatus, or process are allowable costs for grant participation provided that they are necessary, cost effective and that prior written approval is obtained from the reviewing agency. Periodic payment of royalties for the right to operate under a patent are considered operating costs and are not allowable for grant participation. Prior to specifying a product or process which requires the payment of a royalty, you should determine if other royalty-free products or processes are available in order to provide competitive bidding. Royalties allowable for grant participation must be based on a published fee schedule or on reasonable fees charged to other users under similar conditions.

11.2.6

PROJECT SIGN

An EPA sign or a State sign approved by EPA must be provided for your project site in accordance with established specifications (Appendix J).

11.2.7

SMALL, MINORITY, CONTRACTORS must WOMEN'S AND take affirmative LABOR SURPLUS steps to assure that AREA BUSINESSES small, minority, and women's businesses and labor surplus areas are used when possible as sources of supplies, equipment, construction and services in accordance with EPA's procurement regulations (40 CFR Part 33). You and/or your State can decide how the

affirmative steps are to be carried out. The six (6) affirmative steps are to be included in the bidding documents (Section 16.9).

11.3

DESIGN REVIEW

A review of your bidding documents including the construction drawings and specifications is performed prior to the award of Step 3 grant assistance or before initiating procurement action for building on Step 2+3 projects. A review of the construction drawings and specifications is made by your reviewing agency. Your design should be consistent with your approved facilities plan, thus avoiding any delay in approval. Also, a biddability and constructability review is conducted by the Corps of Engineers or delegated State to ascertain that the proposed construction drawings and specifications provide adequate information so that a contractor can bid and construct the facility without additional details or directions. The review by the reviewing agency is for administrative purposes only and is a reasonable determination that the effluent limitations or water quality standards described in the facilities plan will be achieved, that the results of the infiltration/inflow analysis have been considered, that the recommendations of the value engineering review have been included. The design review does not relieve you or your A/E of responsibility for the project design. Structural, electrical and mechanical details of design will typically not be reviewed in detail. Obvious irregularities will be noted and reported to you. Compliance with the design and administrative considerations discussed in this section will be confirmed by your reviewing agency.

CHAPTER 12

CONCURRENT ACTIVITIES DURING DESIGN

12.0

CONCURRENT ACTIVITIES

During project design, it will be necessary to undertake other activities which are either directly or indirectly related to the project design or are a part of the grant application process. While some of these activities could be undertaken after design, it is recommended that they be performed concurrently with design in order to save time, reduce costs and continue moving the project toward grant award.

12.1

VALUE ENGINEERING

Value Engineering (VE) is an intensive review utilizing a specialized cost control technique which identifies unnecessary high cost in a project. VE obtains the best project at the least cost, without sacrificing quality or reliability, by using:

Multidisciplinary team of design professionals guided by a VE coordinator to:

- Evaluate cost and function relationships;
- Concentrate on high cost areas;
- Generate creative alternatives;
- Provide recommendations to you and the project designer.

A VE review is required for a construction project with a total estimated building cost in excess of \$10 million. VE is also recommended for projects costing less than \$10 million because they also contain the potential for substantial savings. VE serves as a mechanism to enhance the design of wastewater treatment facilities by providing the project designer with an opportunity to utilize the knowledge and experience of other individuals to optimize the project design.

12.1.1

VE TEAM AND QUALIFICATIONS

The VE team coordinator is an important VE participant who should have demonstrated technical and managerial capability. The team coordinator acts as a liaison between the VE team, the project's design team and you. The team coordinator should be a qualified individual with VE experience on wastewater construction projects.

Other VE team members should be experienced professionals with VE training, if possible, and previous VE experience on wastewater construction projects. The specific team makeup and size should be appropriate for the nature, size, and complexity of the project.

Because it is essential that the VE review be independent and objective, it should not be conducted by the design firm. You should consider using a separate subagreement with the VE review firm to perform the VE review instead of a subcontract under the original architect/engineer (A/E) subagreement.

12.1.2

SCOPE OF WORK

The VE study should consider all

components and systems of the project. Depending on the size and complexity of the project, the VE effort may vary from one team and one review session to multiple teams and multiple reviews. For example, a large project should involve at least two separate reviews: one review at approximately the 20-30 percent design stage to evaluate the plant layout, structural design, hydraulic capacity, etc.; and a second review at approximately the 65-75 percent design stage when electrical and mechanical systems are being designed.

The VE study will generally result in two reports. The first VE report should include such items as:

- o Scope of the VE study;

- o Basic VE methodology employed, including the results of each phase, such as:

- Information Phase - collection of all facts, background and data that are pertinent to the design, including an energy and a cost model;
- Speculative/Creative Phase - creation of an extensive list of alternative ways to perform the essential functions found during information gathering, concentrating on areas with highest potential savings;
- Evaluation/Analytical Phase - evaluation of the feasibility of alternatives generated during the creative phase;
- Development/Recommendation Phase - a more complete evaluation of the most

feasible alternatives and identification of VE recommendations;

- o Summary of VE recommendations;

- o Estimated cost savings for each VE recommendation.

The VE report is presented both orally and in writing to you and the project designer. Since the purpose of VE is to obtain the best project at the least cost without sacrificing quality or reliability, it is important that the VE recommendations are evaluated from a noncritical and constructive position.

The final VE report should include items such as:

- o Accepted VE recommendations;

- o Cost and schedule for implementing the accepted recommendations;

- o Rejected recommendations and reasons for the rejection;

- o Net savings (both capital and O&M) over the planning period for the accepted VE recommendations.

In reviewing the final report you and your reviewing agency should ensure that there is sufficient justification for each rejected VE recommendation.

12.1.3

PROPOSAL COST AND TIMING Since VE is a process that involves senior professionals, the selection of experienced and well qualified VE team members and team coordinator is essential for best results. Likewise, it is vital that you and your design A/E, when soliciting or

advertising for VE proposals, clearly specify the scope of the VE study, including the number of studies required and other essential factors to assure that all proposals will be submitted on the same basis. Proposals should clearly identify the number of studies and teams; the names and experience backgrounds for the team coordinator and study team members, plus a description of the VE study procedures, with a schedule for completing the study.

Experience shows that two VE studies will generally achieve optimum VE benefits. If the second study cannot be accomplished, one study should be scheduled around the 20-30 percent design stage for best results. A prestudy meeting with you, your design A/E, VE team coordinator and reviewing agency will help refine the scope, schedules and procedures and improve working relationships to maximize study benefits. If managed properly, VE will not delay the project.

12.2

USER CHARGE SYSTEM

The user charge represents the amount of money you will charge each customer each year in order to pay for the operation, maintenance, and replacement (OM&R) of the wastewater collection and treatment system. A sound user charge system is an essential step in ensuring your ability to pay for OM&R. Generally, the charges are based on the amount of water (measured by water meters) used by homeowners and small commercial establishments. Industries and large commercial users, in general, also pay by water use but, in addition, a surcharge may be added because the strength of their waste or the rate of discharge causes

additional operation and maintenance (O&M) costs to be incurred. Nonresidential users which discharge toxic pollutants, if permitted, into the system will pay for any increased costs of managing the effluent or sludge that results from the toxics. The objective of the user charge system is to provide the money necessary to operate and maintain the treatment works plus a reserve to pay for replacement. Maintenance costs consist of the expenditures for obtaining and installing equipment, accessories or appurtenances during the useful life of the treatment works necessary to maintain its design capacity and performance (e.g., pumps, motors, etc.). The operating costs will include items such as salaries, chemicals, utilities, insurance, training, supplies, etc.

The user charge system for purposes of the Clean Water Act must not include charges which are levied to customers to retire bonds or amortize debt. The EPA regulations do not contain requirements for how you accomplish this. You may include a separate charge for capital expenses or debt service on bills to users or recover these costs in the general tax base.

In public meetings during facilities planning, you should have advised the public of the estimated annual user charge. If the user charges developed during design are significantly different from those estimated during facilities planning, you should consider having another public meeting to explain the difference. An EPA publication entitled "A User Charge Guidance Manual" will be of assistance to you in developing and implementing your user charge system. However, the next few sections briefly describe some aspects of user charge systems.

12.2.1

ACTUAL USE

One basis for a user charge system is the contributor's actual use of the wastewater treatment works. The actual use is measured in terms of water meter readings, measurement of sewage flow, strength or rate of discharge from large nonresidential users or other means of determining the proportion of the system used by contributors. The rate charges based on actual use are then uniformly applied in each class of users (residential, small commercial, etc.) in proportion to its contribution. Note, however, that the rates may vary between classes and in some water-short areas rates have been established to help conserve water resources and encourage recycling or reuse of process wastes.

If you do not have an existing user charge system and are developing a new system, the user charge for the first year should be based on your estimates of O&M costs and then adjusted annually thereafter to reflect actual O&M and replacement costs.

12.2.2

AD VALOREM TAXES Another approach used for developing a user charge system is based on ad valorem taxes. Ad valorem taxes are taxes based on the value of property. This system has been approved to permit communities which have historically paid sewage treatment costs out of residential property taxes, to continue to do so. In order for an ad valorem based user charge system to be approved, certain conditions are to be satisfied:

o On December 27, 1977 you had in existence a system of dedicated ad valorem taxes which was used then and

continues to be used for collecting revenues for the operation and maintenance of your treatment works.

o The ad valorem user charge system must distribute costs to the residential and small nonresidential users class in proportion to the use of the treatment works by this class.

o Industrial and commercial users, each of which discharges more than 25,000 gallons per day (gpd) of sanitary waste, as a class must each pay their share of the O&M costs (including replacement) based on actual use.

12.2.3

OTHER USER

CHARGE

CONSIDERATIONS

It is necessary that each user be notified at least annually of the rate

and portion of the user charges or ad valorem taxes attributable to OM&R (waste treatment services) of the treatment works. For example, assume 3 persons per household with each person using 70 gallons per day. This is equivalent to 76,650 gallons per year for the household. Further assume that the annual charge is \$100 per year and of this amount \$40 is for OM&R and \$60 is for debt retirement; the user charge rate would be \$.52 per 1,000 gallons ($\$40/76.65 \times 1,000$ gallons). The user is specifically notified of this rate (\$.52/1,000 gallons) although in some cases the bill may include other charges. In addition, the user charge system must include an adequate financial management system which accurately accounts for revenues and expenditures for OM&R of the treatment system.

A problem sometimes arises for those communities with existing sewer systems which contain some

infiltration and/or inflow which is not economical to remove (i.e., nonexcessive I/I). The OM&R costs for treating this flow can be distributed among all users based on:

o The same manner that is used for actual use; or

o Any combination of flow volume, land area of user, number of hookups or discharges, or property valuation (if an ad valorem system has been approved).

Revenues which may be generated from the project (e.g., sale of treatment related byproducts, lease of land, sale of crops or digester gas, etc.) should be used to offset OM&R costs and thereby proportionately reduce user charges.

12.2.4

ADOPTION OF SYSTEM

The user charge system is generally developed during the design phase and must be approved as a prerequisite to award of grant assistance. Very often the user charge system is enacted by a municipal ordinance and includes details on how rates will be established, how often bills will be sent, and requires annual review and updating. The annual review should be conducted to determine whether sufficient revenue is being collected, whether revenue is generated in proportion to cost, and that the equipment replacement reserve account is adequate. If your project will serve more than one municipality, it will be necessary for each participating jurisdiction to enact similar or identical user charge systems before the treatment works is placed in operation. Where there are prior service agreements concerning user charges, the new system developed and

approved under the EPA grant will take precedence over any terms or conditions of earlier, inconsistent agreements. Enact the user charge system before the treatment works are placed in operation.

12.3

SEWER USE ORDINANCE

Approval of a sewer use ordinance or equivalent legally

binding document is a prerequisite to award of grant assistance. A sewer use ordinance restricts certain connections and wastes, in order to protect your investment and enhance treatment process stability and effluent quality. Many municipalities with existing wastewater treatment systems have already enacted a sewer use ordinance. In this case you should submit a copy with your grant application to your project reviewer.

The sewer use ordinance:

- o Prohibits new inflow sources, i.e., extraneous water generally associated with storm events such as downspouts, area drains, sump pumps, connections from storm sewers, etc.;

- o Requires that new sewers and connections be properly designed and constructed;

- o Prohibits introduction of toxic or hazardous wastes into the sewers in an amount or concentration that endangers the public's safety or the physical integrity of the system which may cause violations of your NPDES permit or precludes the selection of the most cost-effective alternative for treatment, reuse and sludge disposal.

- o You must provide assurances that all existing residences will

connect to the sewer system within a reasonable time after project completion.

The sewer use ordinance should be directly related to your municipal pretreatment program and may be the legally binding instrument which implements portions of your pretreatment program.

While the three items above form the basis for a sewer use ordinance, the actual details contained in the ordinance should be much more specific and contain descriptions or procedures such as: limitations on wastewater strength from nonresidential users; prohibition on dilution; notification procedures concerning accidental spills; removal of illegal connections and rehabilitation of deficient sewer connections as a condition of property sales; discharge reporting requirements; rights of all parties, including right of municipality, EPA and State personnel to enter all properties for testing and measurement, and right of property owners including protection of trade secrets, insurance, and safety requirements.

As is true with the user charge system, if your project serves more than one municipality, each jurisdiction should enact a sewer use ordinance in order to ensure that the entire system is protected as soon as practical.

12.4

PLAN OF OPERATION

The construction grant regulations require that prior

to initiating procurement to construct your project for either a Step 3 or Step 2 + 3 grant, that you submit for approval a draft plan of operation

to your reviewing agency. This draft plan summarizes the actions necessary to identify those steps required for cost effective, efficient, and reliable project start-up and continued successful operation to be taken at the appropriate times.

Certain information that is needed to complete a draft plan of operation may not be known until the project building is under way. Therefore, it may be necessary to define implementation schedules either in terms of an estimated percent of building completion, or in terms of a certain number of days before the initiation of operation.

The final plan of operation must be submitted to your reviewing agency for approval prior to or at the time you request the 50 percent payment. This final plan of operation is to contain detailed information concerning who will perform necessary tasks, when and how tasks will be undertaken, and the nature of each task. The final plan may be in schedule format, (like the draft plan), with only the major tasks to be accomplished shown in detail.

The plan of operation should provide a concise description and implementation schedule, compiled in chronological order, that includes the major topics that are summarized in the following sections.

12.4.1 BUDGET

Be sure provisions are made for an annual budget sufficient to provide for efficient O&M, and replacement (during project's useful life) including administration, supplies, utility charges, and ancillary equipment.

Your budget should also include provision for salaries and benefits to attract qualified personnel, and funds to train and upgrade employees.

Timely enactment and implementation of the user charge system and sewer use ordinance is important to ensure that adequate revenue is available in advance of start-up to support your budget needs. Your revenue generation should be reviewed prior to the end of the first year's performance period and compared to actual operational costs. Costs should be reviewed on an annual basis thereafter.

12.4.2 FINANCIAL MANAGEMENT SYSTEM

Your management system can be either a manually operated system in a small wastewater treatment plant or a computerized system in a larger plant, although, recommending a computerized system does not imply the system cost will be eligible for grant participation. At a minimum, your system should include the following:

- o Contain an accounting of daily revenues and expenditures for project O&M including replacement of parts during useful life;

- o O&M and replacement costs and expenditures incurred during the project's useful life for materials, labor, utilities, and other items which are necessary for managing and maintaining the project to achieve the capacity and performance for which it was planned, designed, and built.

Replacement costs included in your Financial Management System are those costs for obtaining and installing equipment, accessories, or appurtenances during the useful life of the

treatment works necessary to maintain the capacity and performance for which they were designed and constructed.

12.4.3

STAFFING AND TRAINING

You should develop a staffing plan to include staffing patterns and salary schedules, staff structure and organization, and operator certification requirements. Your staffing plan should also include provisions to:

- o Hire the chief operator before construction is 50 percent complete (50 percent payment);

- o Discuss potential hiring problems that may be encountered and actions to solve the problems at least 60 days prior to start-up;

- o Develop a continuous employee safety and operations training plan, and schedule training at least 30 days prior to start-up;

- o You should formally review adherence to the staffing and training plans prior to the end of the 1-year performance period.

12.4.4

EMERGENCY OPERATIONS PROGRAM

You should develop a program that addresses emergency operations. The program should include:

- o A vulnerability analysis of the system,

- o An emergency response program;

- o A periodic revision of the program as necessary;

- o Protection measures.

12.4.5

ADMINISTRATIVE FUNCTIONS

As administrator of the project, you should provide the

following:

- o Provide program and laboratory facilities which are adequate to perform appropriate monitoring and analyses for process control and compliance with the National Pollutant Discharge Elimination System (NPDES) permit and State requirements;

- o Implementation of a quality assurance program to evaluate and improve laboratory analysis and reporting of self-monitoring NPDES data;

- o Ensure that arrangements for submission of appropriate operational reports to the State have been made;

- o Assure that adequate consideration has been given to operational procedures during the start-up period;

- o Develop and implement a maintenance management system;

- o Establish procedures for start-up and continued engineering services for 1 year after initiation of operation (i.e., 1-year performance period);

- o Provide a complete and up-to-date O&M Manual that is revised during the 1-year performance period to reflect actual operating conditions. Additional information on operations is included in Section 14.6. Recommended content of the O&M Manual is described in Section 12.4.7.

12.4.6

START-UP SERVICES

If start-up services are provided, the amount of services must be reasonable for the project's

complexity and size. Professional judgement should be used in determining both the duration and amount of start-up services needed. These services should result in the project being on-line and in full-time operation for the purpose for which it was planned, designed, and built (Section 14.6).

The start-up services consist primarily of operator assistance and training, with observation by qualified operators. On-site training rendered during the 1-year performance period is over-the-shoulder operator assistance with the operator performing daily facility operations.

Start-up services should include training of personnel in the areas of:

- o O&M of specific treatment processes to include:

- Competent operational assistance for adjustment of the treatment process and related equipment functions to attain an initial stable state of continuous performance, safety, and reliability under actual operating conditions.

- o Detailed laboratory procedures including:

- Training and instructions to provide adequate sampling, testing, and quality assurance needed for process control and regulatory monitoring reporting, including the necessity for laboratory certification by the regulatory agency.

- o Maintenance Management System including:

- Services needed to implement the maintenance management system outlined in the O&M Manual, such as lubrication, oil and filter changes, and other preventive and corrective maintenance procedures as well as spare- and consumable-parts inventory.

- o Records Management System setting forth:

- Services to provide the training needed to implement a records management system as outlined in the O&M Manual. This system will become a major element in larger and more complex projects that require more sophisticated systems to adequately handle records related to process control, effluent quality monitoring, reporting requirements, inventories for chemicals, supplies and spare parts, etc.

12.4.7

OPERATION AND MAINTENANCE MANUAL

An O&M Manual is an essential part of the plan of operation. Grant payments made to you from your reviewing agency will not exceed 90 percent of the grant award amount until a satisfactory O&M Manual has been accepted by your reviewing agency.

The O&M Manual should provide essential information and guidance for the treatment works for day-to-day operations. The following major topics should be included in the O&M Manual:

o Information on process design assumptions such as design flows, peak flows, pump capacities, sedimentation basin detention times, surface loadings, weir loadings, food-to-microorganism loadings, oxygen transfer requirements, simplified schematic diagrams of the project's pipelines, control systems, and detailed diagrams of more complicated components;

o Unit process information that includes control measures and monitoring procedures for various processes for achieving maximum efficiency, including a clear explanation of process functions of various components with simplified language and referencing appropriate equipment manufacturers' manuals and EPA technical manuals for more detailed technical information;

o Start-up procedures for each unit operation and piece of equipment;

o Maintenance management system including schedules and procedures for routine adjustments, lubrication, oil and filter changes, and other preventive and corrective maintenance procedures as well as a spare parts inventory;

o Laboratory test procedures, schedules, and equipment, including quality assurance necessary for control of the treatment works, and the specific reports to be sent to local, State, and Federal regulatory agencies;

o Safety procedures for operating equipment with particular emphasis on potentially hazardous areas such as wet and dry wells, chlorination facility, and anaerobic digesters;

o Organizational structure, job descriptions and duties, administrative procedures for purchase order preparation approvals and budget preparation, etc;

o "Troubleshooting," analyzing and solving problems which frequently occur in treatment works which are related either to unit processes or the operation of specific pieces of equipment;

o An operating plan for emergencies which may occur and the procedures to be followed until normal operation can be resumed.

A further description of the O&M Manual is in EPA's publication "Considerations for Preparation of Operation and Maintenance Manuals" (EPA-430/9-74-001).

12.4.8

O&M PROGRAM FOR COMPLETE WASTE-WATER TREATMENT SYSTEMS

The plan of operation must include development of an operations and maintenance program

that coordinates all O&M activities of the newly constructed facility as well as the O&M activities of the other facilities that comprise your complete waste treatment system.

12.5

ONSITE AND CLUSTER SYSTEMS

If your project includes onsite or cluster treatment

systems, you will be required to:

o Assume responsibility for participating contributors including proper installation, operation and maintenance;

o Assure that systems will be constructed, operated and maintained to protect underground potable water sources;

- o Develop a user charge system and sewer use ordinance;

- o Obtain reasonable access to all systems;

- o Establish a comprehensive management and inspection program including water well testing.

During the design phase you should prepare a brief report addressing these responsibilities and indicating how and when they will be implemented.

12.6

INNOVATIVE DESIGNATION RECONFIRMATION

During the development of your facilities plan you evaluated numerous wastewater treatment systems. The project, or its components, selected in your facilities plan may have been initially designated as innovative (Section 6.7.3). Based on the criteria used to classify your project, it may be necessary to reconfirm that designation during design.

Conventional processes proposed as innovative technology projects require more detailed evaluation in order to confirm the significant cost or energy savings or satisfy the other innovative criteria. For example, it may be necessary to recompute the cost or energy savings after a significant portion of the design is completed and compare it with the estimates in the facilities plan. On the other hand, the reviewing agency may determine that a treatment system is innovative because of local variations in geographic or climatic conditions or because it achieves significant public benefits which would not otherwise be possible. Based on the results of reevaluation

the project or component parts may be confirmed as innovative or lose that designation. In the latter case, you should resolve with your project reviewer whether to continue with the project design presently under way.

12.7

PLANNING FOR LOCAL FUNDS

One criterion for evaluating and selecting your project during the facilities planning phase was a financial capability analysis (Section 7.3). At the conclusion of design you should reevaluate the financial impact of the project upon your municipality's financial status to ensure that the project is not too costly. For example, your A/E will have prepared a revised cost estimate of the project based upon the detailed construction drawings and specifications and current costs of construction. These costs should be compared with the estimates in your financial capability analysis. You should also reexamine your municipality's indebtedness or ability to finance the local cost share. During the time from completion of your facilities plan to completion of design, your municipality may have incurred other debts or undergone other changes which affect your debt limitation. If you determine that your project is not too costly, you should undertake financial arrangements to ensure that you can obtain the non-Federal funds for construction generally within 90 days of grant award. If you determine that your project is too expensive based on the criteria in Section 7.3, you should meet with your project reviewer to determine means of reducing project costs.

PART III. CONSTRUCTION

CHAPTER 13

GRANT APPLICATION

13.0

NARRATIVE STATEMENT

Your Step 3 grant assistance application will include

your completed facilities plan, bidding documents including construction drawings and specifications as well as other supporting or supplementary information. Supporting information may include such items as final NPDES permit, discussion of historical sites, estimated indirect costs, compliance reporting schedule (Form 4700-4), Minority Business Enterprise/Women Business Enterprise (MBE/WBE) requirements and report (EPA 6005-1), cost summary report (EPA 5700-41), and certification that you will comply or have complied with all applicable Federal, State, and local laws and ordinances.

After grant award your Step 3 activities will not only include building the project but also may include other activities such as preparation of the final plan of operation, implementation of your user charge system, etc. Therefore, you may find it helpful to prepare a narrative statement which describes your project's history (e.g., pertinent correspondence with your reviewing agency concerning your facilities plan, environmental review or design) and the activities you intend to undertake after grant award. The narrative statement serves to tie together all the separate activities (schedule, scope of work, costs), places them in proper perspective and helps attain complete understanding of your project by the project reviewer.

If you choose to provide a narrative statement, it could be part of your letter forwarding the application package or a separate attachment.

13.1

CONTENTS OF APPLICATION

An application for Step 3 grant assistance includes:

- o A facilities plan prepared in accordance with the regulations (40 CFR Part 35, Subpart E or I as appropriate);

- o Certification from the State that there has been adequate public participation based on State and local statutes (Section 3.1);

- o Notification of any advance of allowance received from the State (Introduction, Grants Program);

- o Evidence of compliance with all applicable limitations on award (Section 13.2);

- o Construction drawings and specifications suitable for bidding purposes (Part II of this book);

- o Project schedule;

- o In the case of an application for Step 3 assistance that includes the acquisition of eligible land, include a plat which shows the legal description of the property to be acquired, a preliminary layout of the distribution and drainage systems, and an explanation of the intended method of acquiring the property;

- o In the case of an application for Step 2+3 grant assistance, include the above items, except drawings and specifications and eligible land description. Note that not all of the limitations on award are applicable at the time of Step 2+3 application.

The following sections discuss the contents of an application (other than facilities plans and project design) and in the case of limitations on award, list the items and provide references to other sections of this book.

13.1.1

INTERGOVERNMENTAL COORDINATION At an early state in development of your project, you were encouraged to obtain comments that will indicate the degree of concern other agencies have in your project (Section 2.3). You should review any comments received to identify sensitive issues for evaluation in your facilities plan. In addition, your State may have established procedures under EO 12372, which replaces Office of Management and Budget (OMB) circular A-95, for consulting between State and local officials and Federal agencies concerning activities under Federal programs. In this case, certification that these procedures have been complied with must accompany your application. Also, further contact may be required at the Step 3 application stage even if you had previous contact earlier in the planning or design stages. Contact your project reviewer for additional information.

13.1.2

APPLICATION FORM The application form (EPA Form 5700-32) contains specific instructions for its completion. The form is signed by your authorized representative acting as the "applicant" for grant assistance. Include a copy of the resolution designating the official authorized to sign the application. Three items, however, require special attention.

Site Information

For projects requesting grant assistance for acquisition of eligible land a plat which shows a legal description is required (Section 13.1). For projects requesting grant assistance for eligible land previously acquired or for which an option for purchase has been taken and for which approval as a preaward cost (Section 13.2) has been granted, submit a copy of the deed or other interest in the property or a copy of the option. In both cases, the deed will include provisions which note and protect the Federal interests.

For projects involving land acquisition not eligible for grant assistance, the land, easements or other real property should be obtained, bonafide options taken or formal condemnation proceedings initiated before application for grant assistance is made. The municipal attorney will need to describe the status of your real property acquisitions in a separate attachment to your application.

Sludge Management

Grant applicants should demonstrate that provisions have been made to manage the solids generated by the project in a cost-effective manner that provides for the protection of public health and the environment. This demonstration should include evidence that any special permits or approvals for the sludge management system have been addressed.

Funding Local Share

The application form requires information concerning the amount of

grant assistance (Federal, including EPA or Farmers Home Administration, and/or State; Section 13.5 and Appendix F) you expect to receive. You should explain fully how you will raise the non-Federal project funds in order to initiate procurement actions to build the project promptly. If procurement action for building the project is not initiated promptly after grant award, your grant may be subject to sanctions (40 CFR Part 30).

In addition, failure to promptly award all subagreements for building the project will result in a limitation on allowable costs (40 CFR Part 35, Appendix A, a.2.e.)

Assurances

Review the assurances contained in Part V of the grant application form carefully. After grant award you will have to anticipate and plan for the work involved in meeting these assurances.

13.2

LIMITATIONS ON AWARD Before grant award the State agency must approve your facilities plan and construction drawings and specifications, determine that all regulatory requirements are met and that costs requested for grant participation are reasonable and allowable. Many of these limitations will have been satisfied if your facilities plan and design have been completed in accordance with this guidance. However, the limitations are listed below as a convenient check to you and referenced to other sections of this book or are briefly described as appropriate.

Advanced Treatment

Projects for which the incremental capital cost of advanced treatment

exceeds \$3 million are to be reviewed and approved by EPA headquarters. Projects with incremental costs of \$3 million or less are reviewed by the Regions or delegated States (Section 9.2.1).

Water Quality Management (WQM) Plans

Projects will be consistent with applicable WQM plans and grant applicants shall be as designated in the plan (Section 4.0).

Priority Determination

Projects will be listed on the State's project priority list. (Introduction, Grants Program; Section 4.1).

Funding and Other Considerations

Grant applicants will agree to pay the non-Federal project costs; demonstrate the legal, institutional, managerial and financial capability to ensure adequate building and operation, maintenance and replacement (OM&R) of the treatment works. The applicant must certify that the costs and financial impacts have been analyzed and that the applicant has, or has the capability to obtain, the financial resources, technical qualifications, experience, satisfactory performance record, accounting and auditing procedures, property management system, procurement standards, organization, and facilities appropriate to carry out and manage the project (Section 7.3). The applicant must also certify that it has not violated any Federal, State, or local civil rights, equal employment opportunity, labor law, or other statutory requirements in connection with facilities planning or design work.

Debarment and Suspension

Grant applications will indicate whether a subagreement was awarded to an individual, organization or unit of government for facilities planning or design work whose name appears on EPA's master list of debarments, suspensions and voluntary exclusions (40 CFR Part 32).

If grant applicants affirmatively certify that such an award was made, EPA will closely examine the facilities plan, construction drawings and specifications to determine whether to award a grant.

Plan of Operation

A draft plan of operation which includes a schedule for the preparation for and operation of the treatment works must accompany the application. The plan of operation must address the:

- o Operation and maintenance manual;
- o Emergency operating program;
- o Personnel training;
- o Adequate budget;
- o Operational reports;
- o Laboratory testing needs;
- o Operation and maintenance program.

During building of the project the plan of operation must be finalized and implemented (Section 12.4).

Intermunicipal Service Agreements

Executed intermunicipal service agreements or other legally binding

instruments covering the basis upon which costs are allocated, the formula for cost allocation, and the manner in which the cost allocation system will be administered will be submitted for Step 3 projects if the project serves two or more municipalities (Introduction, Managing Your Project; Section 8.5.1). This requirement may be waived if:

- o An agreement is already in place;
- o Historical evidence for services between parties exists; or
- o The grant applicant is financially strong enough to continue the project even if one of the proposed communities fails to participate.

Segmented Treatment Works

Grant assistance may be awarded for a phase or segment of a treatment works, although the phase or segment does not result in compliance with the enforceable requirements of the Clean Water Act (CWA), provided:

- o A phase or segment is a substantial portion of a facility and its interceptors, if any. These are described in the facilities plan;
- o Grant agreements require the recipient to make the treatment works, of which the phase or segment is a part, operational and comply with the enforceable requirements of the CWA according to a schedule specified in the grant agreement, regardless of whether grant funding is available for the remaining phases and segments; and

- o One or more of the following conditions exist: (1) the federal

share of the cost of building the treatment works would require a disproportionate share of the State's annual allotment relative to other needs or would require a major portion of the State's annual allotment; (2) the period to complete the building of the treatment works will cover three years or more; (3) the treatment works must be phased or segmented to meet the requirements of a Federal or State court order.

Step 2+3

Grant assistance for Step 2+3 projects is limited to: municipalities with population of 25,000 or less according to latest U.S. Census; total Step 3 building cost of \$8 million or less; and complete treatment systems (i.e., not for treatment works phase or segment). Prior to acquiring eligible real property, submit a copy of the plat and legal description (Section 13.1). Before initiating procurement for building the project, the reviewing agency must approve the construction drawings and specifications, plan of operation, sewer use ordinance, project schedule, intermunicipal service agreements, and user charge system.

Access to Individual Systems

Grant applicants will provide assurance of access to privately owned individual systems and provide assurance of complete management capability for small alternative wastewater treatment systems (Section 6.7.2).

Revised Water Quality Standards

Grants may not be awarded after December 29, 1984, where the State has

failed to review and revise or adopt (as appropriate) new water quality standards relating to your project.

Marine Discharge Waiver Applicants

Grant applicants who have also applied for a secondary treatment waiver (Section 301(h) of the CWA) will include with their applications provisions for possible future additions of wastewater treatment and sludge management processes to meet full secondary treatment requirements (40 CFR, 35.2112).

Environmental Review

Grant applicants will have consulted with their reviewing agency, prior to completing a facilities plan, to determine the appropriateness of a categorical exclusion from substantive environmental review or the scope of an environmental information document as an integral part of the facilities plan. The reviewing agency will have determined, ideally after the completion of the facilities plan, the appropriateness for a finding of no-significant-impact or the need to prepare an environmental impact statement (Section 9.2.2). An application for grant assistance will be submitted only after EPA has completed the appropriate environmental document in accordance with 40 CFR Part 6. Based upon a revised environmental analysis to reflect only significant project changes made during design.

Value Engineering

Projects with total estimated costs of building the treatment works in excess of \$10 million will be subject to value engineering prior to grant award

(Section 12.1). Value Engineering recommendations shall be implemented to the maximum extent feasible.

Collection System

Except as provided by the Regulations (40 CFR 35.2116), projects involving sewage collection systems will be for replacement or major rehabilitation of existing systems not built with Federal funds awarded on or after October 18, 1972, and necessary to the integrity and performance of the complete treatment system, or for new systems where the bulk (generally two-thirds) of the expected flows are from residences in existence on October 18, 1972 (Section 6.4). Major rehabilitation of existing sewer systems are ineligible after September 30, 1984 (CFR, 35.2015). Grant applicants will provide assurance that existing residences will connect to the sewer system within a reasonable time after project completion.

Preaward Costs

In general, project work performed before grant award is not allowable for grant participation except: an allowance may be included in the grant award for facilities planning and design for preliminary Step 3 work; in emergencies or where delay could result in significant cost increase (e.g., procurement of major equipment requiring long lead times, field testing of innovative and alternative (I&A) technologies, minor sewer rehabilitation, acquisition or option for purchase of eligible land, advance building of minor portions of the treatment works); and only after completion of the environmental review and approval by the reviewing agency. Prior approval of preliminary Step 3 work is not an actual or implied

commitment of grant assistance, and potential grant applicants proceed at their own risk.

Infiltration/Inflow (I/I)

Grant applicants shall demonstrate that the proposed treatment works project is not nor will be subject to excessive I/I (Section 5.4).

Approval of User Charge System and Proposed Sewer Use Ordinance

A user charge system (Section 12.2) and sewer use ordinance (Section 12.3) will be approved before grant award. Where an existing system or ordinance is in effect it must be demonstrated that it is adequate and being enforced.

Reserve Capacity

Grant assistance for reserve capacity will be limited depending on the date of Step 3 grant award and the date of earlier segmented grant awards, if any (Sections 5.5 and 7.2).

Treatment of Wastewater from Industrial Users

Grant assistance is provided to projects whose principal purpose is the treatment of domestic wastewater of the entire community concerned and may not include costs of interceptors or collector sewers constructed exclusively, or almost exclusively, to serve industrial users or costs for control or removal of industrial pollutants unless the applicant is already required to remove such pollutants from the nonindustrial users (Section 6.9).

Federal Facilities

Grant assistance must not include the costs for transport and treatment of

wastewater generated by a Federal facility which contributes more than 250,000 gallons per day (gpd) or 5 percent of the design flow of the treatment system, whichever is less.

13.3

OTHER STEP 3 CONSIDERATIONS Other Step 3 actions that should be undertaken either prior to or after Step 3 grant award include the following. These actions and their timing are briefly described below.

You may need to furnish evidence of your participation in the flood insurance program (Section 11.2.2), you may need to describe your procedures to comply with your pre-treatment program (Section 8.5.4), or you may wish to continue with your public participation program (Section 3.1). In any case, you should provide sufficient information and documentation to describe the activities you will undertake during Step 3.

Grant Payment Schedule

Your application should include a preliminary or final schedule for disbursement of grant funds. The payment schedule may be revised after receipt of bids if necessary. For smaller projects the schedule may show quarterly payment requests but for larger projects monthly reports of expenditures may be advisable. In projecting a payment schedule, refer to Section 15.4. This information is used to forecast your cash needs for Federal budgetary purposes. Give careful consideration to your cash flow needs and assumptions as the schedule is prepared.

Public Interaction

During construction it may be necessary to close streets, reroute

traffic or otherwise temporarily inconvenience the public. Project specifications should require the contractor to make provisions for these actions including notification to police, fire and ambulance services. However, public notice of the timing and duration of these inconveniences will help promote public acceptance and avoid complaints.

13.4

PROCUREMENT

You are encouraged to use your own procurement system if it meets the Federal minimum requirements as described in Chapter 16. It is recommended that, as early as possible, you complete and submit the "Procurement System Certification Form for Applicants for EPA Assistance" (EPA Form 5700-48) in accordance with its instructions (Appendix N).

At the time of grant application one aspect of procurement, namely, procurement of architect/engineer (A/E) services, should be noted.

By signing the application form you have certified that you will comply with the assurances contained in Part V of the form. One of the assurances requires you to provide A/E services needed to complete the project, including technical supervision, to ensure conformance with approved construction drawings and specifications. In addition, a condition of grant acceptance will require that your prime engineer direct the operation of the project, train or provide for training of operating personnel, revise the operation and maintenance (O&M) manual, prepare curriculum and training material for operating personnel, observe and periodically

report on the performance of the project, and advise you whether the project is meeting its performance standards. Part of these activities are to be carried out during the first year of operation of the project.

The procurement of the A/E firm to provide these services must comply with the applicable provisions of your certified procurement system or, in the alternative, EPA's procurement regulations. Costs for these services should be anticipated prior to, and included, in your application for grant assistance. You should note that under certain circumstances you may continue with the same A/E firm which provided engineering services during facilities planning or design without having to readvertise and reevaluate candidate firms (see Section 16.5.5). You may also consider the use of "Force Account" to provide certain services (Section 15.3).

13.5

FEDERAL GRANT SHARE After review and approval of a completed application, grant assistance will be awarded based on the sum of the total Step 3 allowable cost plus the allowance. Unless the Governor has uniformly lowered the Federal share, as discussed in the introduction, grant assistance will be:

- o 75 percent before October 1, 1984;
- o 55 percent after September 30, 1984; or
- o 75 percent after September 30, 1984, for all phases or segments of treatment works, not including collection systems, major sewer system

rehabilitations, and combined sewer overflows only if the initial phase or a segment received Step 3 grant award prior to October 1, 1984 (40 CFR, 35.2152);

o I&A technology projects or their I&A components may receive increased Federal grant assistance of 20 percent greater than conventional projects. Grant assistance will not exceed a total Federal share of 85 percent (75 percent after September 30, 1984), except for certain cases, such as segmented projects or as described in the CWA.

The 1981 amendments to the CWA eliminated grants for facilities planning (Step 1) and design (Step 2) and substituted an "allowance" as part of the Step 3 grant to help defray the cost of these activities. The allowance is not intended to reimburse you on a dollar-for-dollar basis for cost incurred during planning and design. Rather, the amount of the allowance is based on the percentage of building costs that have historically been attributable to facilities planning and design activities. Appendix B to EPA's grant regulations (40 CFR Part 35, Subpart I) provides specific details for computation of the allowance and should be consulted as you prepare your grant application. The construction grant regulations are included in Appendix M. Briefly, however, the procedures may be summarized as follows:

- o Prepare an estimate of the allowable building costs for your project (generally prepared by your A/E);
- o Use Table 1 or 2 (included in Appendix B cited above) depending on whether you received a Step 1 grant;

o Enter the appropriate table with the estimated allowable building cost and determine the allowance as a percentage of the estimated allowable building cost (interpolate between values);

o Compute the estimated allowance (in dollars) by multiplying the (allowance percentage) determined in the previous step by the (estimated allowable) building costs.

The Federal share (the amount of the EPA grant) is determined by summing the allowance and the Step 3 allowable cost and multiplying this amount by the appropriate grant percentage described at the beginning of this section.

The limitations on computing the allowance (initially based on estimate; final after bids are accepted and payment of the allowance (both for Step 3, Step 2+3 and advance of allowance) should be carefully noted as you prepare your application for grant assistance.

In States which provide State grant assistance and for projects which are designated as innovative or alternative (I or A), the State grant must be in the same proportion as provided to non I or A projects. For example, assume a conventional project with a total cost of \$100. The Federal share would be \$75 and the non-Federal share the balance or \$25. If a State is awarding 15 percent grants, the State grant would be \$15 and the local share \$10. The State grant represents 60 percent (\$15/\$25) of the non-Federal share. If an I or A project costing \$100 is awarded an 85 percent Federal grant or \$85, the non-Federal share is \$15. In this case, the State grant is required to be 60 percent (as before) of the

non-Federal share or \$9 (60 percent x \$15) and the local share is \$6 (40 percent x \$15);

The term "treatment works phase or segment" means a substantial portion of a treatment facility. Under certain circumstances, after September 30, 1984, a phase or segment of a treatment works may be eligible to receive 75 percent funding (grandfathering). The requirements for grandfathering and the funding sequence for grandfathered phases or segments are set forth in the Federal Share section and are explained in the preamble of the construction grant regulation (40 CFR, Part 35 Preamble; 40 CFR, 35.2152).

All grants are subject to Federal appropriations and the availability of remaining funds in the State's allotment or required reserves.

13.6

GRANT AWARD

State reviewing agencies must receive and review all applications and supporting documents to assure they are complete. The State reviewing agency must also certify that the project is on the fundable portion of the State priority list. In States which have been delegated authority to review and certify all requirements necessary for award of Step 2+3 and Step 3 grant assistance, the State will provide such certification to EPA and EPA will have 45 days in which to approve or disapprove the application. If EPA does not approve or disapprove the application within 45 days, the application will be deemed approved subject to available appropriations.

In States which have not entered into delegation agreements with EPA or do

not have sufficient authority to certify all necessary requirements, the State will provide EPA with certification and other such documentation as has been agreed to between the State and EPA.

As a result of the review process, the project reviewer may modify the grant amount, scope of work or other aspects of the project. In addition, special conditions based on recommendations from the State agency may be included in the grant agreement (EPA Form 5700-20).

The completed grant agreement will be mailed to you. You should promptly review the grant agreement. To accept the grant, you must sign and return the agreement to EPA within 3 calendar weeks after receipt (40 CFR, 30.305). The person signing and accepting the grant is the authorized representative (usually the same person who signed the application form). If there is a new authorized representative, an authorizing resolution will be included with the agreement. Once signed, the agreement forms a legally binding contract between you and the Federal government. You should review the agreement carefully and, if necessary, discuss any changes from your application with your project reviewer. Also, note special grant conditions that require attention during your project.

CHAPTER 14

PROJECT CONSTRUCTION

14.0

PROJECT CONSTRUCTION After grant award, you may initiate procurement of construction contracts. Procurement is discussed in Chapter 16 and you should comply with guidance in that chapter concerning the use of your or EPA's procurement system.

14.1

GRANT INCREASES/ DECREASES At the time you submitted your grant application, you requested a grant based on your estimate of allowable project costs including building costs. Your building costs may also have included a "construction contingency" (typically 10 percent or less of the estimated building costs) since you cannot be sure of the costs until the project is bid. After receipt of bids, your building costs are more firmly established and the contingency should be reduced (typically 2 to 5 percent). The post bid contingency covers minor changes such as differences between estimated and actual quantities of material on unit price items or unknown field conditions which may be encountered.

14.1.1

GRANT INCREASE If the bid prices from the successful contractors exceed your estimated building costs including the contingency and if the prices are reasonable and you wish to award the contracts, you may apply for a grant increase. You should submit your request and supporting documents

to your reviewing agency. If appropriate and assuming sufficient funds remain available in your State's allotment (most States maintain a reserve for grant increases), your grant should be amended by the State and EPA.

14.1.2

GRANT DECREASE If your building costs are lower than estimated in your grant application, the State agency may initiate action to reduce your grant to the appropriate level. By doing so, the State may recover sufficient funds from your project and others to allow additional projects to be funded. A grant amendment agreement will be sent to you.

14.2

PRECONSTRUCTION CONFERENCE It is recommended that after construction contract award you arrange a preconstruction (project management) conference. If deemed necessary, a separate preconstruction conference may also be arranged by the Equal Employment Opportunity Office (EEO), U.S. Department of Labor (generally where building costs exceed \$1 million) to insure that contractors comply with the equal employment opportunity provisions of applicable statutes and executive orders.

The preconstruction conference attendees should include you, your architect/engineer (A/E), construction manager, project inspector, all prime contractors, subcontractors, representatives from public and private utilities, and representatives of your reviewing agency. The purpose of the preconstruction conference is to coordinate schedules, review and

emphasize regulatory requirements, resolve questions, and set the groundrules for working together during construction.

You or representatives of your reviewing agency, if present, should generally have a checklist of items to discuss at the conference. Listed below are some of the more common items:

- o Responsibilities and authority of each party;

- o Interrelationship between contractor, consultant, municipality, State, Corp of Engineers, EPA, and other involved parties;

- o Schedules for completion of project and coordination between contractors;

- o Payment requests from contractors-form, timing, documentation, retainage;

- o Change orders - requests, documentation, approval levels;

- o Minimum wage - posting of wage rate determination;

- o Compliance with local, State and Federal laws such as Occupational, Safety, and Health Administration, Equal Employment Opportunity, minority, women's, and small businesses, etc.

The project reviewer may also want to meet separately with you to discuss other items not directly affecting the construction contractors. Discussions may include items such as:

- o Adequate engineering supervision during construction;

- o Reviewing agency onsite observations;

- o Management and processing of change orders and/or claims;

- o Processing of payment requests;

- o Maintenance of adequate records for subsequent audit;

- o Schedule for sewer system rehabilitation, if necessary;

- o Enactment of sewer use ordinance and user charge system before the treatment works is placed in operation;

- o Development, approval and implementation of the final plan of operation;

- o Continuing A/E services during the first year of operation;

- o Preparation of records for project closeout.

14.3

MONITORING CONSTRUCTION

Your grant application included an assurance that you will provide and maintain competent and adequate engineering supervision and full-time inspection of the project. The supervision and inspection may be provided by municipal employees (force account Section 15.3), your A/E or a construction management firm. The supervisory services should provide technical assistance in the preparation and negotiation of change orders, processing of contractors' payment requests, shop drawing reviews, preparation for regulatory agency onsite reviews, and assurance that the project is constructed in accordance with the approved construction drawings and specifications, permit and grant conditions, approved

addenda, change orders, and environmental mitigation measures. The responsibility for monitoring construction activities and resolving problems, however, rests with you.

14.3.1

ONSITE OBSERVATION

To properly manage the project, it is necessary that you provide adequate engineering and observation during the course of construction. Depending on the size and complexity of the project, your oversight and inspection may require periodic site visits or a full-time onsite inspector. During construction, the reviewing agency or Corps of Engineers will make periodic onsite reviews to ensure that the project is being managed properly, is on schedule, and is being constructed generally in accordance with approved construction drawings, specifications and change orders.

It is common practice for most municipalities to procure an A/E firm or construction management firm to supervise building of the project (the alternative is using qualified municipal employees). The firm may be the A/E who prepared the project design, a different firm specializing in construction management, or a combination of both. The traditional engineering services provided during the building of a project include: technical observation of the building to ensure completion and conformance with the construction drawings and specifications; providing expert opinion on changes to the project including the preparation of independent cost estimates; and in general, acting as a technical advisor. The specific scope of work including duties and responsibilities is enumerated in the A/E subagreement.

Although not a complete checklist, Table 4 illustrates the typical functional relationships between the various parties associated with the construction and performance of the project.

The reviewing agency will make both interim and final onsite reviews. In most cases, the reviewing agency will provide you with a sample form to be completed during the onsite review. You should notify your project team and contractors of the pending review and have documents and other necessary data available for review. Items typically observed at the time of an interim onsite review include:

- o Adequacy of engineering supervision and observation;
- o Availability of approved construction drawings, specifications, as-built record drawings, and change orders at the project site;
- o General conformance of construction to approved drawings, specifications and change orders;
- o Spot check of latest estimate of work-in-place with the actual observed construction;
- o Review of test reports for materials and equipment;
- o Protection and storage of delivered equipment;
- o Display of appropriate project sign and posting of appropriate wage rate determination;
- o Implementation of special construction techniques including erosion and sediment control measures and other measures to protect the environment;

- o Hiring and training of operational staff in accordance with the plan of operation;

- o Progress on the preparation of the O&M manual;

- o Progress toward enacting the user charge system and sewer use ordinance before beginning operation of the treatment works;

- o Review of existing and pending change orders and claims;

- o Maintenance of schedule for sewer system rehabilitation if appropriate;

- o Adequacy of treatment (no bypassing) during construction;

Final onsite reviews will be made soon after your request. The final onsite review may include the above items and a determination that:

- o Facilities are complete, operating and meet effluent limitations contained in the National Pollutant Discharge Elimination System permit, including pretreatment requirements;

- o Facilities conform to the approved construction drawings, specifications and change orders;

- o Equipment is operational and performing satisfactorily;

- o Operation and maintenance staff is hired and trained in start-up and operational procedures;

- o Laboratory facilities are complete and appropriate tests are being performed;

- o Operation and maintenance (O&M) manual is onsite and operators are trained in its use and application;

Table 4 Grantee and Contractor Responsibilities

Responsible party	Municipality	Architectural/ engineering	Construction contractor	Equipment supplier
Functions	Manage project Procure services	Design project Prepare drawings and specifications	Build facility Install equipment	Fabricate and deliver equipment
Responsibility	Operate facility Certify compliance	Process compatability	Performance Reliability	Performance Reliability
Needs	Obtain architec- tural/engineering assistance Obtain legal assistance Obtain construction management	Insurance for error and omissions Subcontracts	Guarantees and bonds for equipment and performance	Warranties or bonds for equipment and performance
Additional services	Provide planning design and/or construction (force account) Provide inspection Provide review and VE services	Provide shop drawing review Construction management Provide resident inspection Provide O&M manual, start-up services, and train operators Provide VE	Proposed cost savings design and/or construc- tion modifications	Provide start-up services Provide operator training

- o Accounting records are in place and available for audit;

- o Sewer system rehabilitation is on schedule, if appropriate;

- o User charge systems and sewer use ordinances have been enacted;

- o Provision for continuation of engineering services during the first year of operation;

- o Flood insurance is provided for the useful life of the project;

- o Property management procedures and property inventory is satisfactory.

The onsite reviewer will discuss any deficiencies, furnish you a copy of his completed report and confirm, in writing, agreements resulting from your discussions. These services may also be provided under separate subagreement.

Services for periodic site visits, shop drawings review, and other engineering services may be included in your consulting engineers subagreement. Services for construction management or resident inspections are usually provided by separate subagreement.

14.4

PAYMENT REQUESTS AND LIMITATIONS Interim and final grant payment requests are prepared and processed in accordance with the procedures outlined in Section 15.4. At the time of onsite review, payments will be compared with the actual construction completed. Construction contractor payment requests are based on the work completed or equipment delivered to the site and

are generally supported by your contractor's estimate of work-in-place as approved by the A/E. Grant payments are limited to 50 percent until a satisfactory final plan of operation has been approved and 90 percent until a satisfactory O&M manual has been approved by the reviewing agency.

14.5

PLAN OF OPERATION

The plan of operation (Section 12.4) is important to ensure successful start-up of your treatment works and to promote continued compliance with your NPDES permit. Initially, the plan of operation focuses on staffing, training and operation of the treatment works. However, equally important are the administrative aspects of protecting your investment. Each year an adequate budget is prepared identifying the basis for determining the annual O&M cost and the cost of personnel. You, as the project owner, will establish salary levels which should be commensurate with the complexity of operating your treatment works and adequate enough to attract and retain competent and dedicated employees.

14.6

PROJECT PERFORMANCE

There are a number of requirements which you must satisfy prior to beginning the 1-year project performance period. These requirements include a complete project schedule, as well as other activities to be completed during your project construction and operation phases.

14.6.1

PROJECT SCHEDULE

Of extreme importance in managing your project and to

its operational performance is a properly prepared project schedule. The construction grant regulations require you to develop a project schedule specifying key events. This schedule must be included in the grant application.

A project schedule can be a time-line diagram. The actual project schedule must include dates of scheduled activities. Figure 6 is a partial project schedule that shows only project events that precede the 1-year performance period which directly impacts the period. The construction grant regulations require that other events be shown on the project schedule, such as public notices of proposed procurement actions, subagreement awards, issuance of notice to proceed with building, and the one-year performance period. It is recommended that advice from the design engineer, project manager, or construction manager be sought when you develop this schedule.

It is important to note that the timing of both the completion of building and initiation of operation, which are shown on Figure 6, should coincide. However, these dates may not coincide because your complete wastewater treatment system typically includes more than one project. That is, segmented treatment works, interceptor sewers, pumping station, and treatment plant may be built under different grant agreements. If completion of building each of these projects does not coincide, wastewater flows may not be available to each project so that initiation of the one-year performance period cannot occur at the same time. You should schedule the date of initiation of operation when the project is capable of being used for purposes for which

it was planned, designed, and built whether or not the enforceable requirements of the act apply to that particular project. It is EPA's intent that one performance period and certificate be scheduled for each project.

A project refers only to the activities or tasks identified in the grant agreement.

Completion of building is the date when: all but minor components of a project have been built, all equipment is operational, and the project is capable of functioning as designed.

Initiation of operation is the date on which use of the project begins for the purposes that it was planned, designed, and built.

All components of the wastewater treatment system must be complete prior to initiation of the 1-year performance period. Figure 7 shows the key project events that occur after initiation of operation and these events should be a part of your project schedule.

To assist in achieving proper performance of the project, you must select the engineer or engineering firm principally responsible for either supervising construction or providing engineering services during construction. The selected firm serves as the prime engineer and directs the operation of the newly-built project during the first year of operation, train operating personnel, and prepares curricula and training material for operating personnel. Also, the prime engineer is expected to provide additional services including, but not limited to: revise the O&M manual for the project as

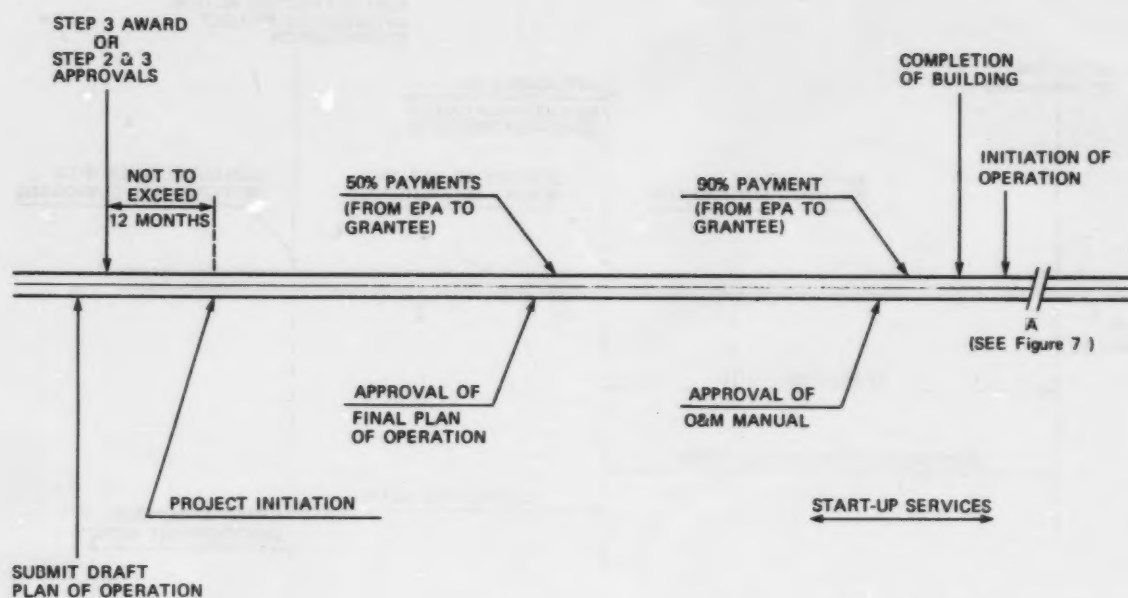


Figure 6 Project Schedule: Pre-Performance Certification Period

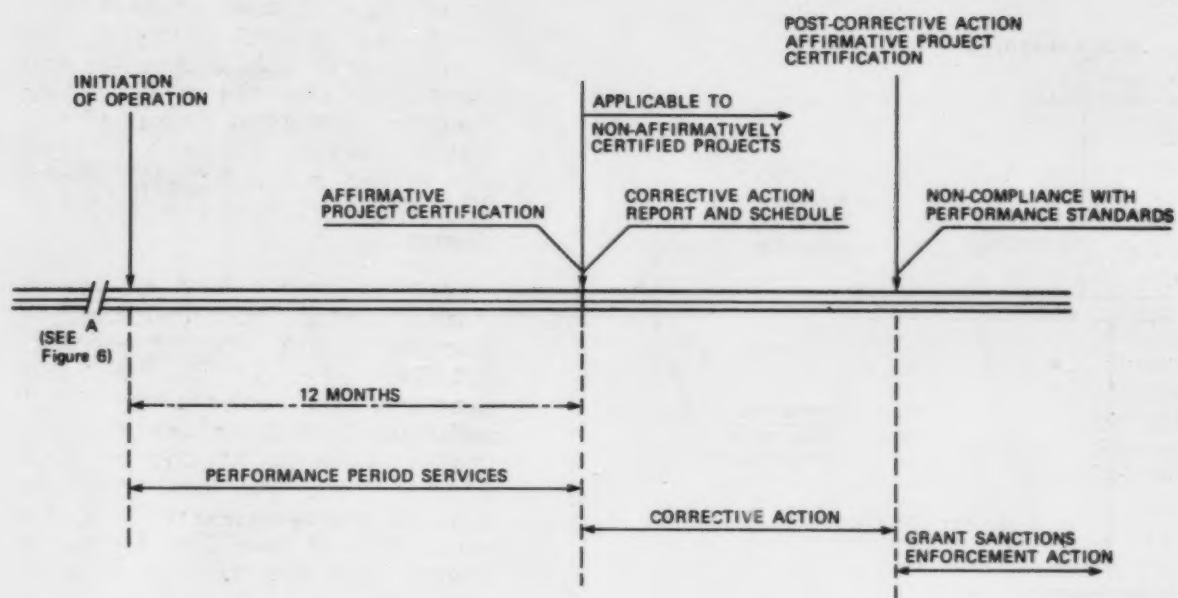


Figure 7 Project Schedule: Performance Certification Period

necessary to accommodate actual operating experience, and advise the grantee whether the project is meeting the project performance standards. These services must be included in your Step 3 or Step 2+3 grant application in order to be considered as project costs. The engineer that has prime responsibility for providing these performance period services may subcontract these services subject to the EPA's procurement regulation (40 CFR Part 33).

If the enforceable requirements of the Act change between time of grant award and the end of the first year of operation, you must use the enforceable requirements of the Act under which the project was planned and designed to meet. The compliance schedule and other requirements established in the NPDES permit for the facility must be used when you establish dates on the project schedule.

Although you are responsible for planning, designing, and building so that the project meets its performance standards, the risk associated with a negative certification can be shared with other parties to the project through more assurance, guarantees, indemnity, or other contractual requirements from any party to a subagreement or contract under the project. Nothing in the law or regulations prevents you from requiring these additional requirements. By requiring additional assurances and guarantees you are reducing your financial risk in the case that a nonaffirmative certification is submitted. Costs for extending warranties and bonds beyond the traditional 1-year period (but not beyond the 1-year performance period) are grant allowable costs

if the costs are reasonable and necessary for ensuring achievement of an affirmative certification.

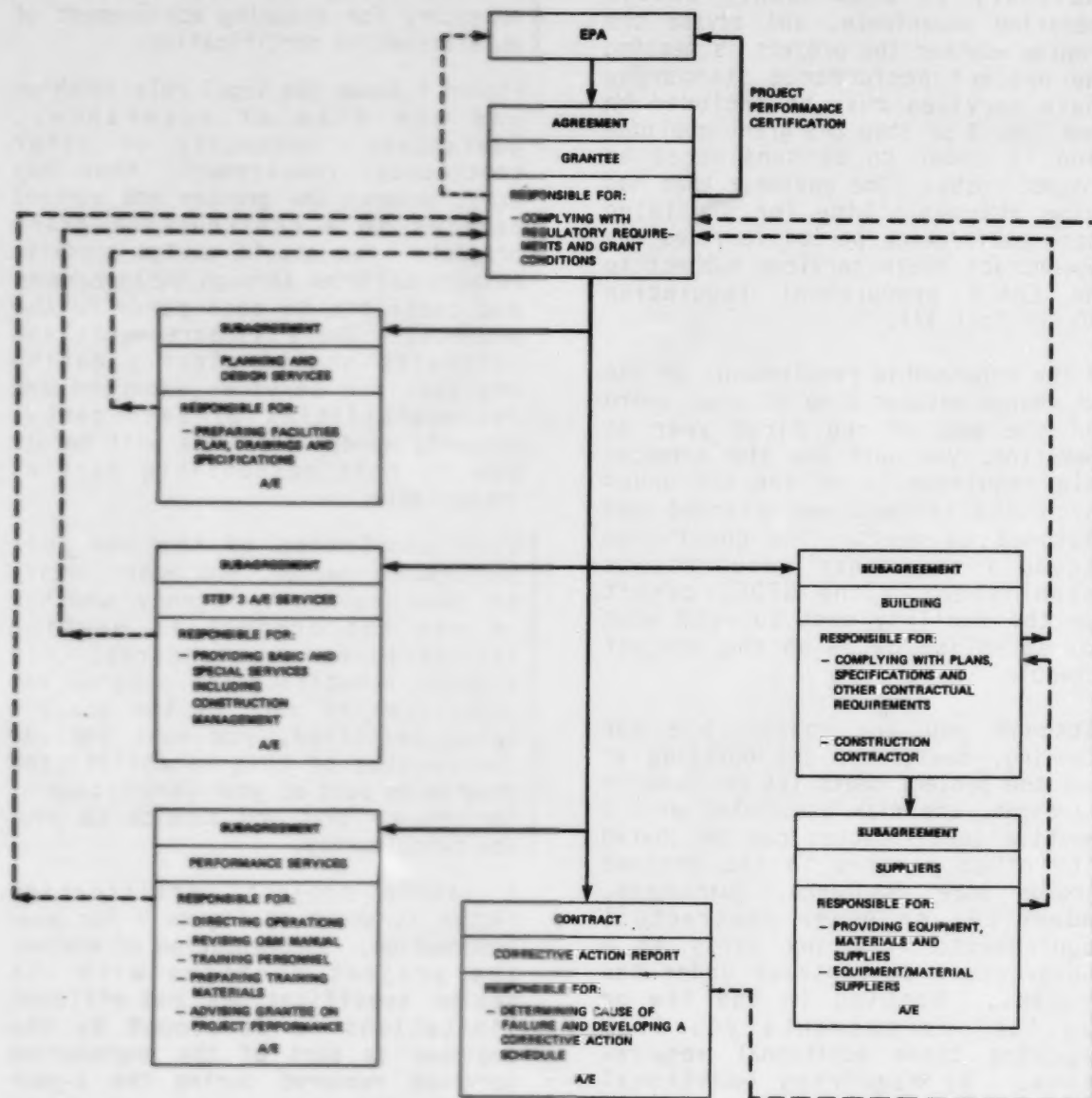
Figure 8 shows the legal relationships and the flow of assurances, guarantees, indemnity or other contractual requirements that may exist between the grantee and various parties in a construction grant project. You should assign specific responsibilities through subagreements and contracts to each party to the project. These subagreements and contracts should clearly define the specific services expected and responsibilities of each party. Properly worded documents will permit you to hold responsible parties accountable.

Upon completion of the one-year performance period, you must certify to your reviewing agency whether or not the project is meeting its performance standards. If a sewer rehabilitation program was undertaken as part of the project being certified, you must include the results of this rehabilitation program as part of your Certificate of Performance that you furnish to your reviewing agency.

A sample project certification letter is shown on Figure 9 for your information. Documentation of whether the project conforms with its design specifications and effluent limitations is developed by the engineer as part of the engineering services rendered during the 1-year period. This documentation should be kept in your project file and it must substantiate the certification letter you submit to your reviewing agency.

For discharging projects, the project performance standards include design specifications (i.e., includes

POSSIBLE ASSIGNMENT OF
ASSURANCES, GUARANTEES, INDEMNITY OR
OTHER CONTRACTURAL REQUIREMENTS



LEGEND

—————> —LEGAL RELATIONSHIPS

- - - - -> —POSSIBLE ASSURANCES, GUARANTEES, INDEMNITY OR OTHER CONTRACTURAL REQUIREMENTS

CONTRACT —NOT ELIGIBLE FOR GRANT PARTICIPATION

SUBAGREEMENT —ELIGIBLE FOR GRANT PARTICIPATION

Figure 8 Project Performance Certification

As required by the Clean Water Act under Title II, Section 204(d) and 40 CFR, 35.2218(c) we _____ (grantee) certify that the project built under EPA Grant No. _____ (does, does not) meet the design specifications, and effluent limitations and all other project performance standards.

Grantee

Signature and Title of
Authorized Representative

Date

Figure 9 Sample Certificates of Performance for Publicly Owned Treatment Works

engineer's report, facility plan, detailed plans and specifications) and effluent requirements. For nondischarging projects such as interceptor sewers, pumping stations, etc., the project performance standards include only design specifications. In the case of projects that include sewer rehabilitation the quantity of infiltration and inflow (I/I) eliminated is a component of the performance standards. You should include in your grant application project's performance standards that you will certify at the conclusion of the 1-year performance period.

Attainment of project performance standards means meeting effluent limitations and design specifications under design year equivalent flows and loads, as well as under initial year flows and loads. When your project has more than one liquid or solid process train, diverting flows into each train during project's performance period, when total flow is less than design, will assist in achieving design year equivalent flows for project certification.

14.6.2

I/I

REHABILITATION

As part of your postconstruction project evaluation and prior to final certification, you will be required to determine the amount of I/I eliminated. An essential part of this determination is the identification of the actual amount of I/I reduction that has been achieved through the corrective program. This requires an analysis and evaluation of system flow records during the wet-weather season immediately following system upgrading. A flow analysis will be needed to determine the overall reduction of I/I as reflected at the treatment plant. Accordingly, unless the trunk lines to the treatment plant are surcharged during the storm periods, I/I flow data should be collected at the plant rather than at multiple points throughout the collection system. The Sewer System Evaluation Survey (SSES) should not be repeated, and information developed should be limited to that required to develop a postconstruction I/I flow figure. This flow figure compared with the original I/I flow will provide the actual percentage reduction achieved.

It will also be necessary to identify the actual costs of system rehabilitation associated with the I/I reduction. These costs should include the cost of design and SSES costs expended to identify acceptable corrective action. This system rehabilitation cost (sunk cost) is then compared against the Transportation and Treatment cost curve used in the original cost-effectiveness analysis of the SSES (Method 2, MCD-19). If the percentage I/I reduction is equal to or greater than the projected

reduction represented by Transportation and Treatment costs reduced by the sunk cost, then the cost benefit ratio is equal to or less than 1.0, and the completed program is considered to be cost effective.

Ideally, the original SSES would have produced separate cost-effectiveness analyses for infiltration and inflow. If this was done, the postconstruction evaluation would have to match the original approach.

It is technically sound to perform cost-effectiveness analysis for infiltration and inflow separately. However, if this were done in the original SSES, you should separate the combined cost-effectiveness analysis curves prior to determining the result of the rehabilitation program.

Figure 10 shows a graphical representation of this evaluation process. This figure would be taken directly from the SSES conducted during the planning period. While the planned corrective costs shown here are represented by "D," matching the low point of the Total Cost Curve, the actual corrective costs (sunk costs) are shown slightly larger, represented by "D'." The percent reduction read from the Transportation and Treatment cost curve at cost reduction "D'" is indicated at point "A" and represents a cost/benefit ratio of 1.0. Any actual I/I reduction equal to or greater than this percentage is considered to be cost effective, even though it may be less than the optimum percent reduction planned during the facilities planning stage. In other words, the actual cost of your I/I reduction efforts must result in reducing your transportation and treatment costs by at least the same amount.

14.6.3

ENGINEERING SERVICES

The construction grant regulations require that the engineer or engineering firm provide the following services during the 1-year performance period:

o Direct operation of the project;

Directing the operation involves oversight and observation of the unit processes and equipment which make up the treatment works. Directing the operation of the project does not involve the engineer in the administrative details of daily operation of the project such as individual personnel transactions or direct supervision of your municipality's employees. Although, where needed, the engineer could provide hands-on demonstrations, fine tuning, and make operating decisions to be effected by your personnel. Other activities could include:

- briefing municipal officials and plant personnel on the status of project performance program and overall project operation;

- reviewing user charges, budgets, salaries or other financial management items;

- providing assistance with setting up and tracking warranty files,

- reviewing personnel systems, record development, laboratory procedures, process systems, safety and emergency systems.

o Train or provide for training of operating personnel;

A training program should include instruction in operation and control of specific unit processes and

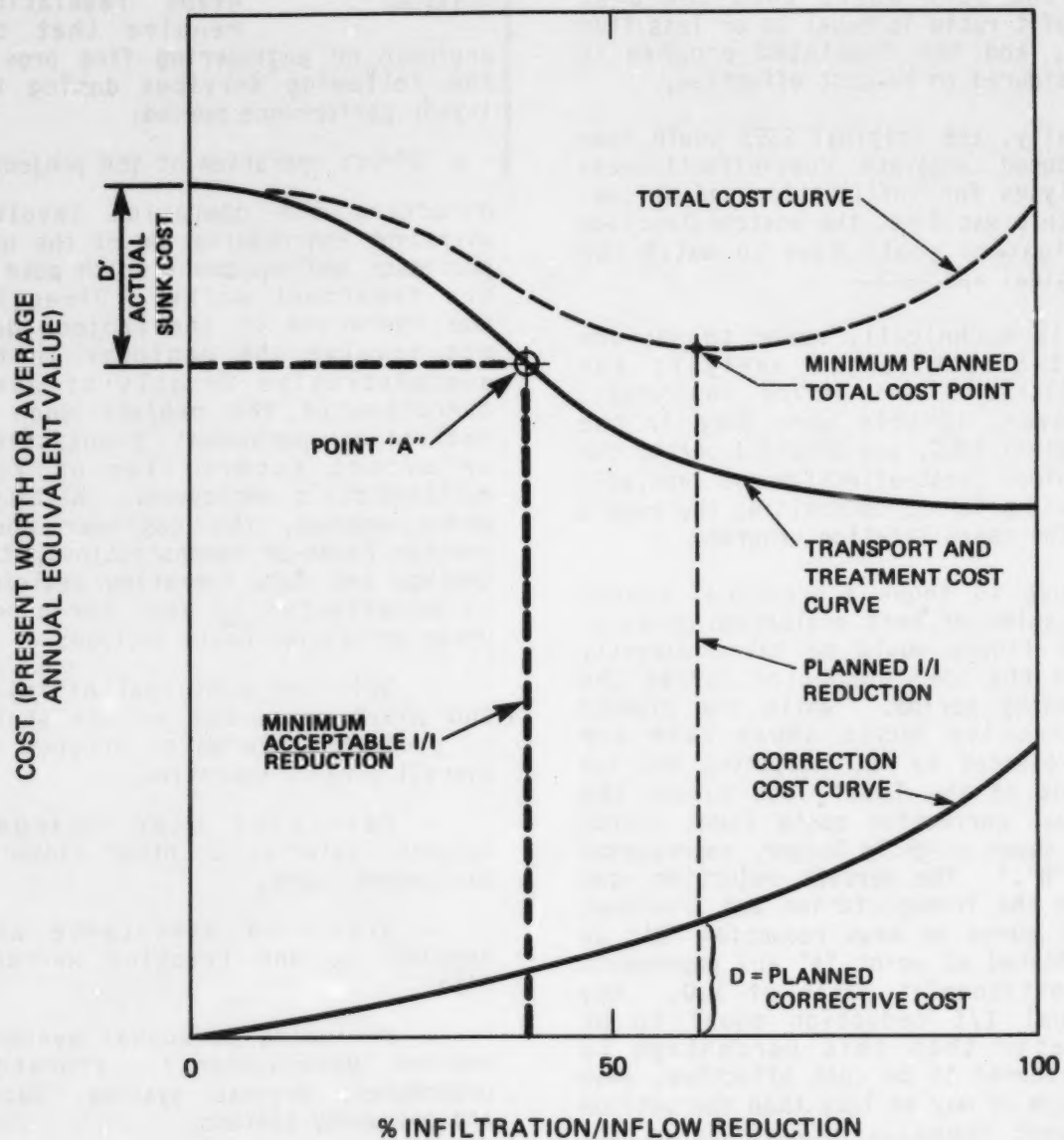


Figure 10 I/I Reduction Acceptability Analysis

equipment during normal and abnormal conditions. Also, instructions should be provided in areas such as: flow measurement and sampling procedures, laboratory procedures, maintenance management system, preventive/corrective maintenance, records management system and financial management system.

- | o Prepare curricula and training materials for operating personnel;

Curricula and training materials should be applicable to a specific facility and scheduling of participants should be compatible with the facilities daily operations. The trainer should have actual operational experience relevant to topic discussed.

- | o Revise the O&M manual to accommodate actual operating experience;

The revised O&M manual should be distributed to your reviewing agency that conducts operation and maintenance inspections at your completed project.

- | o Advise you whether the project is meeting its performance standards:

Documentation of project's actual performance during the 1-year period can be accomplished by maintaining ongoing records. This documentation can be used in preparing periodic reports that the engineer submits to you and when the engineer advises you whether or not the project is meeting its performance standards. This documentation should include: measurements of influent and effluent quality/quantity including enforceable requirements of the Act and unit process/equipment performance, taking

into account both initial and design year flows and organic loads, as it relates to design specifications.

The engineer should advise you of the following:

- o The capability and performance of the staff to effectively and efficiently operate and maintain the facility under normal, alternate, and emergency modes of operation;

- o The capability and performance of the organization to effectively accomplish necessary administrative, management, and financial utility functions;

- o Actual costs in relation to prior estimates of costs, the adequacy of revenue sources and actual charges necessary to meet revenue requirements.

Generally, the engineering services during the 1-year performance period should be phased down during the one year period while simultaneously making sure that your operating staff can properly operate the project on their own. The level-of-effort of the engineering services during this one year period should be appropriate for the project's scope. Generally, this means that project performance engineering services that are both reasonable and necessary for an interceptor sewer would be less than for a pumping station. Likewise engineering services would be less for a pumping station than for a treatment plant.

14.6.4

CORRECTIVE
ACTION

If, at the end of
this 1-year period
you cannot provide
an affirmative certification, a

corrective action report and schedule must be developed and submitted to your reviewing agency upon completion of the one year period. Costs associated with developing this corrective action report schedule and implementing corrective action are not allowable project costs. If the project is a failed Innovative and Alternative (I&A) project, then costs associated with the corrective action report and implementation may be allowable grant costs. The corrective action report must include:

- o An analysis of the cause of the project's inability to meet the performance standards;

- o A schedule for undertaking in a timely manner the corrective action necessary to bring the project into compliance;

- o The scheduled date for certifying to the reviewing agency that the project is meeting its performance standards.

After the corrective action has been completed you must provide your reviewing Agency with an affirmative certification.

In addition to the above requirements, your corrective action report should also include the following:

- o A discussion of appropriate and structural solutions that will be effective for the design life of the facility;

- o A discussion of action to mitigate, insofar as possible, adverse environmental impacts of unsatisfactory performance until corrective action is completed;

- o A discussion of all appropriate recourse available in procurement related insurance, warranties, guaranties, bonds, and indemnities to effect timely, complete, and permanent corrections.

14.7

ABANDONMENT

Federally funded treatment works must be operated and maintained by the grantee for their design life in accordance with grant conditions and enforceable requirements of the Clean Water Act. Recovery of federal funds are not required when the treatment works are beyond their design life.

If based on changed conditions you propose to abandon a project, or portion thereof, prior to the end of its design life, you must request disposition instructions in accordance with Part 30 of Title 40. EPA will make a determination of whether to recover Federal funds for the abandoned treatment works.

In making this determination, EPA will review any written documentation you provide and will consider among other things how NPDES permit conditions will be maintained, including provisions for alternative treatment of wastes emanating from the abandoned treatment works (at no additional Federal expense), so that enforceable requirements of the Act and NPDES permit conditions are met.

Modification or replacement funds may be available for failed I/A technologies (Section 15.2).

14.8

WASTEWATER PROCESS INFLUENT VARIATIONS

When the characteristics of the wastewater to the

publically owned treatment works, or the liquid/ solids/gas feed to a unit process or equipment item are substantially different from those specified, or, if not specified, those normally anticipated in treatment of municipal wastewater, the contractor should promptly notify the owner, or his representative, of the apparent differences. He should request a meeting to discuss alternate methods of conducting field performance testing when such methods are required for acceptance.

When agreement cannot be reached (regarding whether characteristics are substantially different or regarding alternative methods of testing), an independent evaluation should be obtained by the recipient (owner). Based on the evaluation, recommendations for conducting field performance testing and recommended criteria for acceptance should be developed. If appropriate, an adjustment may be made in the contract. If an agreement cannot be reached, the matter should be handled under appropriate contract provisions.

14.9

CHANGE ORDERS

A change order is an order written by you to the construction contractor authorizing an addition, deletion, or revision in the work and/or the time of completion within the limits of the construction contract after it has been executed. It is a specific type of contract modification which does not go beyond the general scope of the existing contract.

The change order management procedure is used when a need is recognized for a change in the terms or conditions of existing signed contract documents. It generally originates as a claim or a recommendation for a change from the

construction contractor or as a request-for-proposal from you, seeking a change to existing contract documents. The change order is necessary to increase or decrease the contract cost or work, interrupt or terminate the project, revise the completion date, alter the design, or in general, to implement any deviation from the original contract terms and conditions.

The successful completion of the change order management process depends upon the successful execution of the responsibilities of each of the participants: owner, engineer, construction contractor, and reviewing agency.

The bilateral change, rather than the unilateral change, is one agreed to by both parties, and is most desirable since it minimizes disputes at a later date. Should meaningful negotiations fail, you have the authority to make a unilateral change within the scope of the contract. In order to move the project forward, you can issue a change order without construction contractor agreement under a model "changes" subagreement clause. In this case, the construction contractor must perform the work, but may elect to dispute the terms and could recover additional costs from you under the same clause. In some cases, State law may give the construction contractor specific rights of recovery.

14.9.1

DUTIES AND RESPONSIBILITIES

You are responsible for the administration and implementation of the project for which EPA Construction Grant assistance is awarded. In accepting the grant, you have agreed to pay the non-Federal costs of treatment works

construction associated with the project. You are also financially responsible for any additional non-Federal costs associated with a change. Should the reviewing agency determine that the change order is not allowable for Federal participation, the entire change order cost would then be considered non-Federal costs.

You are the one who must agree to any change in the conditions of the construction contract because you are the only party that has entered into the contract with the construction contractor.

You may retain a construction manager, particularly if your own forces do not have the expertise or additional time available to properly manage the additional responsibilities. EPA encourages the construction manager concept, but it should be discussed with the reviewing agency before any commitments are made. While the construction manager's role and contractual relationship with you differ from those of the engineer, it is possible for the engineer to assume both roles.

Once a grant is awarded and construction is under way, you should not presume that the engineer, construction contractor, and regulatory agencies will oversee the management of the project. In the best interest of the community, you should actively manage the project to completion. You should be convinced that a proposed contract change is necessary and reasonable regardless of Federal participation in the cost. You are responsible for negotiating fair and reasonable cost and time adjustments for a necessary change and should ensure competent, timely processing of change order requests.

Owner's Responsibilities

You are responsible for:

- o Determining whether a change order is warranted;
- o Negotiating a fair and reasonable price for required changes, or authorizing the engineer to do so;
- o Maintaining costing records for the change including records of negotiation;
- o Maintaining current and accurate fiscal projections of contract and project completion costs;
- o Resolving disputes which may have arisen as a result of a proposal for a change;
- o Notifying the reviewing agency in writing of events or proposed changes which require a grant amendment (Prior Approval Requirements, Section 14.9.1).

Engineer's Role

The engineer will be expected to:

- o Act as consultant to the owner during the construction of the project and on changes that are proposed;
- o Provide expert opinion on whether a change is appropriate or not, and if so, why;
- o Prepare a fair and reasonable independent cost and time estimate on the proposed change to verify that the estimate prepared by the construction contractor is fair and reasonable;
- o Negotiate change orders if authorized to do so by the Owner.

Construction Contractor's Responsibilities

In order to expedite the processing of a change order, the construction contractor will be expected to:

- o Furnish and certify the correctness of sufficient cost and pricing data to enable the owner to determine the necessity and reasonableness of cost and amounts proposed, and to enable the reviewing agency to determine the eligibility and allowability of costs proposed;

- o Submit change order proposals within the time allowed by the contract and enter into meaningful negotiations on a necessary contract change;

- o Comply with the record keeping and accounting requirements set by EPA regulations appropriate to the dollar amount of the change order;

- o Maintain a current construction schedule, such as a critical path diagram, with the level of detail based on project size and complexity.

Prior Approval Requirements

In order to obtain change order approval, written approval from the reviewing agency is, in some cases, required prior to the start of work associated with the change, because of the significant effect on performance or cost of the project. Conditions which require prior written approval (which is always a formal grant amendment) include the following:

- o Project changes which:

- Alter the project performance standards;

- Alter the type of treatment to be provided;

- Substantially alter the facilities plan, design drawings and specifications, or the location, size, capacity, or quality of any major part of the project;

- Increase or decrease the EPA grant needed to complete the project;

- Significantly delay or accelerate the project schedule.

- o In addition, for contract changes involving dollar amounts of \$100,000 or more on grants awarded before May 12, 1982, if:

- Any single item (additive or deductive) exceeds \$100,000;

- No single item has a value of \$100,000, but the total price of the change order is over \$100,000;

- The total of the additive items of work in the change order exceeds \$100,000, or the total of the deductive items of work in the change order exceeds \$100,000, even though the net value of the change order is less than \$100,000.

- o However, related work must not be split into two or more amendments or change orders merely to keep it under \$100,000 and avoid the need for prior approval.

- o For grants awarded on or after May 12, 1982, the reviewing agency may review proposed change orders over \$100,000 if the owner has not

self-certified its procurement system. Under these circumstances, the owner should request prior review.

Prior approval is not required for changes to correct minor errors or minor changes not addressed by the above-mentioned prior approval requirements. It is also not required for emergency changes as defined below.

It should be noted that the reviewing agency will respond to requests for prior approval as promptly as possible in order to avoid undue project delays. Therefore, the approval may only cover the concept of the change, even though certified cost data must be furnished when prior approval is required because the amount of the change is \$100,000 or more. Because of this, the approval could be subject to revision based on later review of the necessity and reasonableness of quantities, cost analysis, and allowability of costs (40 CFR 35.2204).

Emergency Changes

An emergency may be described as an unforeseen combination of circumstances leading to a hazard to life, property destruction, or health which can only be alleviated by immediate action. Although prior approval is not required for emergency changes, the reviewing agency should be notified as soon as possible after the emergency has been put under control if the work would otherwise have required prior approval.

Disputes

Many of the delays and misunderstandings surrounding the modification

process can be avoided by effective and frequent communication between you and the construction contractor. You bear the entire responsibility to settle construction contractor claims. When a claim is submitted, you should request and obtain a change order proposal from the construction contractor, investigate the circumstances promptly, reach a tentative decision on the merits, and notify the construction contractor of that decision, justifying the position, based upon the plans, specifications, and other contract documents. In reaching that decision, you may find it advisable to obtain legal advice or to consult with representatives of the reviewing agency.

If you determine that a change order proposal is meritorious, it should be negotiated and settled through a bilaterally-executed change order. If you determine that a change order proposal is unmeritorious, the construction contractor may decide to pursue the claim through litigation, arbitration, or other form of dispute resolution. In that case, you may request the reviewing agency's advice and assistance prior to assessing and/or defending against the claim. Reviewing agency technical and legal assistance can also be requested for the administration and enforcement of construction contracts, especially where a dispute may jeopardize completion of the project.

14.9.2

CONDITIONS THAT MAY WARRANT A CHANGE ORDER	A change order proposal may originate from your own perception of the situation or from a request by the construction contractor.
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The following are common categories of conditions which generally give rise to a need for contract changes:

- o Differing site conditions;
- o Errors and omissions in plans and specifications;
- o Changes instituted by regulatory agencies;
- o Design changes;
- o Overruns/underruns in quantities;
- o Time of completion.

Differing Site Conditions

A "differing site conditions clause" or its equivalent in an EPA grant-assisted construction contract will describe differing site conditions as:

- o Subsurface or latent physical conditions at the site differing materially from those indicated in the contract; or
- o Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.

The premises on which a differing site conditions clause in an EPA grant-assisted construction contract rests may be described as follows:

- o Each bidder is not expected to perform an independent subsurface site investigation prior to submission of bid. However, bidders are generally advised by the contract documents to make a site inspection;

- o The contract bid price is proportional to the degree of risk the construction contractor must provide for in its competitive bid;

- o The most cost-effective construction is obtained by accepting certain risks for latent or subsurface site conditions.

Once the information on differing site conditions is assembled, you should be in a position to determine if the site conditions differ materially from those indicated in the contract or those ordinarily encountered, and whether this will cause an increase in the construction contractor's cost or the time to complete the work. If you determine that a change order is needed, it should provide supporting documentation including reports, pictures, plans, and whatever is appropriate to demonstrate where and how actual conditions deviated from the plan or from conditions that should have been anticipated.

Errors and Omissions in Plans and Specifications

Errors and omissions are usually design or drafting deficiencies in the plans and specifications. Errors on plans and specifications are items which are shown incorrectly, while omissions are items which are not shown at all.

Some errors may lead to disputes between the engineer and construction contractor. You are responsible for resolving the dispute and may have difficulty in assessing the situation, since the engineer may have also been the designer and may strongly feel that the design was adequate. Moreover, there may be no clearly discernible line between design errors

and faulty materials or installation by the construction contractor. You may seek opinions from independent third parties experienced in modern design practices to aid in the more complex decision making, but should request prior approval from the reviewing agency before contracting with a third party.

The terms of an EPA grant-assisted designer's contract require the correction of errors/omissions in the drawings or specifications without additional compensation.

Time spent negotiating an engineer/construction contractor dispute should not extend the time of completion. However, a finding of design deficiency may be grounds for time extension equal to that delay caused by the error itself.

You should evaluate these requests carefully, since not all errors or omissions necessitate a change to the contract price and/or time. While the construction contractor is entitled to an equitable adjustment, he may have incurred no additional expense and may have no right to a claim even though an error or omission has occurred. If expense was decreased, a credit could be due. You should pursue the available remedies against all parties who are responsible for the added costs of a change to protect against vicarious liability for the improper actions of others.

Changes Instituted by Changes in Regulatory Requirements

Compliance to changes in the law or in the requirements of government agencies may necessitate a change order. Typical examples are: changes due to the imposition of the reserve

capacity limitation requirements, revisions to building codes, or revised road construction plans. The need for this type of change should be well documented with sources and dates. Justification for change should include correspondence, records and notes demonstrating that the requirements could not have been incorporated into the contract documents prior to bid date.

You should review the documentation for this kind of request carefully to demonstrate that this is indeed a change.

Design Changes

A design change is a modification to an existing design which can be constructed and will operate properly without modification. In order to warrant consideration, it should meet one or more of the following conditions:

- o Be cost-effective. That is, offer a savings in excess of all costs associated with the change order including future operation and maintenance costs;

- o Respond to a proposal based on a construction-incentive contract clause.

Design changes usually originate as proposals volunteered by the construction contractor, recommended by the engineer, or requested by you. You may see certain benefits such as reduced operating costs or improved operating efficiency. However, any such proposal deserves particularly careful analysis because the plans and specifications have already been determined to be adequate for project purposes by the reviewing agency.

You must receive prior written approval from the reviewing agency before authorizing changes which substantially alter the design, scope, type of treatment, location, size, capacity, quality of any major item of equipment, or time to project completion.

Considerations relating to design changes fall into five categories: general, substitution, revised site location, additions, and deletions.

o General

On all proposals for design changes, you should consider who originated the proposal, how it will differ from the original contract, when an answer will be needed, why the alternative was not considered during design, whether this is the most cost-effective alternative, who will guarantee the design changes, whether the change affects the timing or cost of other contracts, whether the change will affect operation and maintenance, and what the secondary effects are.

o Substitution

Substitution is the exchange of specified equipment, material, or construction technique for another of equal, better, or lesser quality. The substitution may require a different installation technique from the design, with a resulting change in installation costs which far outweighs differences in material costs.

o Relocation of Site

Relocation of site is a highly undesirable circumstance, since it opens Pandora's box to construction contractor claims, especially when done hastily in response to some

unforeseen conflict. You should consider all secondary effects and be assured that a site relocation is the only feasible alternative.

o Additions

You should insure that proposed additions are within contract scope and project scope.

o Deletions

Major deletions should not be accepted at face value. Often a careful review will reveal very extensive costs and secondary effects.

Overruns/Underruns in Quantities

Overruns/underruns occur when a difference develops between the quantity estimated in the bid schedule and the quantity actually required to complete the bid item. These differences occur only in contracts which are formulated as a series of bid unit prices for each unit (cubic yard, linear foot, etc.) of that item installed. They do not affect lump sum firm fixed price bids. When the differences are considerable, it can result in an unreasonable loss to you or the construction contractor. You and the engineer should be alert to identify significant overrun/underrun trends as early as possible and avoid obligating funds which are not available. If significant overruns or underruns do occur, then the contract price will be adjusted accordingly as appropriate.

When change orders increase or decrease the quantity of original contract items, you may need to review the unit price to allow for reasonable adjustment if there is a contractual "variations" clause where:

- o You incur unreasonable expense when an item priced too high has heavy overruns;

- o The construction contractor sustains loss due to heavy overruns in an item priced too low;

- o The construction contractor must absorb expenditures of general overhead costs which were included in the unit price for an item that was only partially used.

Most contracts contain provisions for significant differences in the "as built" quantities when compared with the estimated quantities. If the final quantity differs from the original bid quantity by 15 percent or more, (less than 85 percent--more than 115 percent) you should consider negotiating new unit prices. You may negotiate an equitable adjustment in the unit price for that differential which exceeds the 15 percent margin.

Engineers are not always able to predict contract quantities to plus or minus 15 percent in advance. Realizing this, construction contractors sometimes speculate by entering high unit prices on those items they expect will overrun and low unit prices on those items which may underrun significantly. The technique is referred to as an unbalanced bid. The result may be unbalanced unit prices or prices which are not proportional to the estimated construction costs. However, where the construction contractor has large overruns in units where unit prices were underbid and there is no variations clause in the contract, a proposal to modify those unit prices may be developed. It should be evaluated on the basis of the foregoing discussion.

Additional clauses may have been included in the contract to minimize incentive for speculative bid unit prices such as to:

- o Consider overruns/underruns for renegotiation only on major items (e.g., unit price multiplied by quantity equals or exceeds 10 percent of contract dollar amount) or high risk items (foundation excavation). The construction contractor's competitively bid unit prices are presumed sufficiently balanced that only large changes to major items will create an unfair hardship to the construction contractor or you. From another point of view, the increased cost (or savings) resulting from an unbalanced unit price may be presumed distributed over the other contract items;

- o Place a ceiling or maximum permissible change allowable in the unit price, e.g., 25 percent;

- o Establish a minimum amount payable under the item to cover fixed costs.

A summary change order to establish the final quantities on a unit price contract is an accepted practice. However, you should recognize the purpose and application of contract clauses which were intended to minimize unfair advantage and expense to you or the construction contractor caused by significant differences. These clauses are not necessarily justification for a change in price.

Time of Completion

Six conditions impact time of completion, which is equally as important as costs: termination for convenience, termination for

default, suspension of work, directed acceleration, time extensions, and constructive acceleration. It should be pointed out that termination and suspension are not common actions on public sector construction.

o Termination for Convenience

You have the right to terminate any or all portions of the contract work at any time during the course of the project, even though neither party has violated the contract or failed to perform. You must follow a prescribed course of notification and assume control and ownership of facilities constructed to date. The construction contractor is entitled to an equitable cost adjustment.

o Termination for Default

If the construction contractor fails to perform all or portions of the work with sufficient diligence to ensure completion of the contract within the allotted contract time plus time extensions, you may terminate the construction contractor's right to proceed. You assume ownership of facilities constructed to date, and can complete the project with your own forces or by using another contractor. The construction contractor is entitled to an equitable adjustment which includes: payment for work done and materials supplied to date, deduction of any additional cost over and above the contract amount which you incur to complete the project, and deduction for damages sustained by you due to the construction contractor's default.

o Suspension of Work

You have the right to temporarily suspend or interrupt portions or

all of the work for an appropriate period of time. In a few cases, the construction contractor may be entitled to an equitable adjustment for any additional costs caused by this suspension.

o Directed Acceleration

You may determine that portions of the work or the entire contract must be accelerated from the original contract schedule. While directing acceleration of the work may be procedurally similar to ordering a temporary suspension, the construction contractor is generally less able to change the work schedule without additional cost.

o Time Extensions

You may grant a time extension to the construction contractor for good cause. Otherwise, the construction contractor could be liable for contractual penalties, if any, resulting from failure to perform within the allotted time. A time extension due to weather should be granted only for working days (generally Monday through Friday, unless overtime is expected) in excess of those expected under "normal" weather conditions of the project location. A commonly used mechanism for controlling unjustified delays in contract completion is a liquidated damages clause in the contract. The clause generally assesses a dollar amount to be paid to you from the construction contractor for each day that the time required to complete the project exceeds the contract time. The amount is based on estimated damages which would be sustained by you. This clause is invoked only if the construction contractor has failed to complete the work by the designated

time or fails to justify and obtain approval of time extensions. Since the construction contractor will generally provide a justification, you should keep complete time-related records in order to enforce this clause.

o Constructive Acceleration

You should not ignore a justifiable request for a time extension since this can result in a construction contractor claim for constructive acceleration. This occurs when a construction contractor sustains additional costs by increasing forces or otherwise incurring added expense to overcome lost time which occurred through no fault of its own in order to avoid assessment of liquidated damages.

Terminations, suspensions, and extensions of time will necessitate processing a change order. Terminations for convenience or default are usually very complex and may require evaluation of the entire project. Other contract provisions in addition to EPA-required contract provisions or model subagreement clauses can affect the outcome. Extensions of time should be fully evaluated and justified. You are cautioned against awarding unwarranted time extensions, so that liquidated damages may not be unnecessarily forfeited.

Whenever time factors are part of a change order, they should be negotiated together with the other factors, not deferred or separately negotiated. In this way, claims for associated costs such as additional overhead during time extensions can be largely avoided.

14.9.3

PREPARATION OF THE CHANGE ORDER The preparation of the change order requires familiarity with contract documents, assembling of pertinent information, negotiation, and careful documentation of the proceedings.

Before entering negotiations, you should be totally familiar with the options and incentives provided by the contract documents. Application of these tools can encourage the construction contractor to negotiate meaningfully.

The bilateral change order is the more common type, it is one agreed to by both parties, and it minimizes cause for disputes and claims at a later date. Should meaningful negotiations fail, you may issue a unilateral change based on the authority provided by the EPA-required contract provisions or model subagreement clauses. For a unilateral change, the construction contractor, whose concurrence is not required, is entitled to an "equitable adjustment" for any difference in cost resulting from that change. Many contracts provide a formula for computing the adjustment. The threat of the use of the unilateral change plus other options provided for by contract can expedite meaningful negotiations.

Other options include deletion of the work covered by the change and performance of that work with your own forces (which should be approved by the reviewing agency before starting work), or performance under a separate contract awarded to another construction contractor. However, a proposal deleting the changed work may entitle the construction contractor to an equitable adjustment for part, but not

necessarily a pro rata share, of the overhead allocable to the changed work and not recovered elsewhere. The unilateral change should be invoked with caution since control over costs and time may be lost, the quality of the work may suffer, and control of the contract may suffer.

Convinced of the need for a change order, your next step is to negotiate the conditions of that change with the construction contractor and prepare the change order. Effective negotiation is a vital function of contracts administration. You should, as good business practice, prepare for negotiations with the same thoroughness as the construction contractor. There should be an exchange of background information, clarification of the scope of change, consultations with regulatory agencies where necessary, exploration of alternatives and secondary effects and cost and time considerations. Each party should formulate certain negotiable objectives of performance, price, and time.

Preparation for Negotiations

You are responsible for negotiating fair and reasonable cost and time for a necessary change order. Preparation for negotiations should include consideration of quality control, cost, alternative methods, secondary effects, and time. The engineer's advice is normally sufficient for this preparation.

However, where you are faced with an unusually substantial and complex claim, you may wish to use an independent third party to prepare an assessment. This third party should provide whatever engineering and construction, financial, and legal

expertise is needed to clarify your position regarding costs, share of liability, and amount at risk. By comparing the assessment to litigation/arbitration cost estimates and the construction contractor's potential settlement offer, you may find the claim close to resolution.

It should be noted that written prior approval by the reviewing agency must be obtained before contracting with a third party, if you want this assistance added to the scope of the grant-eligible project.

o Quality Control

Quality of materials and workmanship may be a negotiable item in some modifications. The corresponding price can vary over a considerable range. Any proposal for change should include a detailed description of work, plus a specification clearly defining quality of materials and workmanship.

o Cost

Most change clauses specify that an equitable adjustment should be agreed upon. The goal of an equitable adjustment is to leave the construction contractor in the same relative profit or loss position on the basic contract after the change order as if there had been no need to change the contract.

You should establish the cost of the change, insofar as possible, before the start of work. Pricing of the work after its completion is undesirable since it:

- Compromises your ability to control project costs;
- Gives the construction contractor a distinct advantage in negotiations for extensions of time;

- Fosters a condition where the price agreement may be based upon cost plus a percentage of cost basis which is not allowed under EPA regulations;
- Fosters a pattern of overpriced proposals which delay agreement until after the work is completed.

At this stage, you should have the construction contractor's price proposal, the Engineer's independent cost estimate and possibly an independent third party's assessment if necessary for comparison. You should be prepared to negotiate cost plus a fair profit, including reductions in overhead and profit for deleted work. Under grants awarded on or after May 12, 1982, you are required by EPA regulations to conduct a cost or price analysis for all negotiated change orders estimated to exceed \$10,000.

o Alternative Methods

There are generally a number of alternative methods of meeting the objective of the proposed change. The construction contractor, being the most knowledgeable about its operating costs, can often suggest economies in construction methods or materials not apparent to you. The cost effectiveness of the alternatives presented should be compared after a technical analysis, taking into account future operation and maintenance costs. You should also consider whether the change is needed to complete the project since the "no change" alternative may in fact be the most cost-effective choice over the design life of the project.

o Secondary Effects

A seemingly minor contract change may have secondary impacts which are many times more costly than the original change order amount. Assessment of secondary effects presupposes a thorough understanding of the project design, contract documents, and the construction contractor's schedule and construction techniques. Failure to properly assess secondary effects may undermine the cost effectiveness justification supporting the proposed changes.

o Time

Time affects price. It is unlikely that a realistic price can be negotiated without the parties agreeing or being close to agreement on the time adjustment required. Deferral of time negotiations to a later date suffers from the same criticisms as after-the-fact pricing, since it:

- Relieves the construction contractor of pressure to complete the work in a timely manner. However, if time negotiations are deferred, the construction contractor must still prove the basis for delays;
- Places the construction contractor in the advantageous position of negotiating from actual time. This can be countered by keeping construction schedules up to date;
- Creates a danger of constructive acceleration due to failure to issue justified time extensions promptly.

Approval of a change order for time extension may extend the amount of engineering and inspection needed on the project.

Approval of a time extension will not relieve you from any obligations that the state or EPA may have imposed upon the project.

In addition to the construction contractor's proposal for time extension, you should make your own independent estimate (normally prepared by the engineer).

Memorandum of Negotiation

It is a good construction management practice to keep a memorandum of the negotiations pertaining to a change order. The amount of detail and formality involved in the memorandum should definitely be not more than is justified by the complexity of the work and cost involved.

A record of these negotiations documents that the parties have a clear understanding of the proposed changes and have jointly evaluated the reasonableness of the proposal. These should include considerations of quality, cost, alternative methods, secondary effects, and time. The memorandum should be prepared at the negotiating table and signed by all attending. Immediate documentation minimizes misinterpretation and memory failure.

The parties may not reach agreement on some or all of the items discussed. The disagreements are often more significant than the items resolved. Those items which are not resolved or are not negotiable should also be recorded, stating the position of each side and whatever reservation of rights is necessary. The reasons for disagreement must be clearly documented. A multipart bilateral change order can then be executed for the resolved items and one or more

unilateral change orders issued for those unresolved items which must proceed. The construction contractor may then seek a remedy through renewed negotiation, arbitration or litigation.

A number of unrelated items may be discussed at the same session and included in one memorandum. The Memorandum of Negotiation should contain the following information:

- o Project name and number, location, date;
- o Contract name and number;
- o Names of persons representing construction contractor, Owner, Engineer;
- o Description of proposed change (attach revised specification, plan, sketches, shop drawings, etc.) station location, plan sheet number;
- o Discussion of alternative methods of meeting objective and quality considerations;
- o Construction contractor's price proposal;
- o Engineer's independent estimate of cost and time changes;
- o Explanation for recalculation or disagreement;
- o Statement of total cost changes including secondary costs;
- o Statement of total time changes;
- o Assurance that complete cost of secondary effects has been included;
- o Dated signatures of persons attending.

The Memorandum is not a notice to proceed, nor is it a change order. It should be used in the preparation of the change order and retained in your files for possible later use by the reviewing agency.

Change Order

The change order is the formal document which alters some condition of the contract documents. The change order may alter the contract price, schedule of payments, completion date, and plans and specifications.

It specifies the agreed-upon change to the contract and should include the following information:

- o Identification of the change order;
- o Description of change;
- o Reason for change;
- o Change in contract price;
- o Change in unit prices (if applicable);
- o Change to contract time;
- o Statement that secondary impacts are included;
- o Approvals by the Owner's and construction contractor's authorized representatives.

You may require the Engineer's signature for internal control, but this is not a substitute for your signature.

Notice to Proceed

Before proceeding with the work, the construction contractor may require a "Change Order Notice to Proceed"

(standard forms available from professional and trade associations) from you. If needed, you can provide notice to proceed immediately unless prior approval from the reviewing agency is required. The notice to proceed may be made a part of the change order, allowing the construction contractor to proceed upon execution of the change order by both parties.

Submitting a Change Order to the Reviewing Agency

EPA regulations intend that the level of detail required in a change order and attachments depends on the dollar amount and complexity of the change. For changes with a price of \$10,000 or less, abbreviated documentation should be used such as, for example, a telephone memorandum to serve as a Memorandum of Negotiation. As another example, sales slips, quotations, catalogs and price lists can be used to support the price paid. By using shortened procedures and by grouping changes to be administered in one change order, preparation costs should be kept reasonable in relation to the dollar value of the change. However, related work should not be separated into several change orders just to take advantage of shortened procedures.

Submittal requirements also depend on the date upon which the grant was awarded. For grants awarded on or after May 12, 1982, change orders would not need to be submitted to the reviewing agency, unless you self-certify that your own procurement system does not meet the intent of EPA regulations. However, these change orders will be subject to audit by the reviewing agency at the completion of the project. Documentation, except

the approval request, should therefore be completed and kept in your files.

In order to assist you in preparation of the change order approval request, the information typically required by the reviewer has been provided in the EPA publication referenced in Section 14.9.5. This request formally notifies the reviewing agency that a change has been made to the contract documents and asks for change order approval and determination of allowability of any additional costs or time for federal participation. Since the memorandum of negotiation, change order and notice to proceed (if any) will be included with the request, it is suggested that information given on them not be duplicated on the request itself.

The request must be signed by you prior to submission to the reviewing agency. As with the change order, the engineer's and construction contractor's signatures may be required as a part of your internal control procedures, but this is not a substitute for your signature. Supporting documentation should be referenced and then attached to the change order request.

You are expected to keep all change order documentation on file for 3 years following final grant payment. If a change order is the subject of a controversy (such as a claim) or audit within the 3 years, the period shall be extended until resolution of the controversy or audit.

You should also check with your State agency which has reviewed the construction drawings and specifications to determine if there are any additional change reporting requirements, such as modifications to a State-issued building permit.

14.9.4

REVIEWING AGENCY PROCEDURES The reviewing agency's responsibility is to determine if a change order request complies with and satisfies the EPA requirements of the construction grants program.

Each reviewing agency has developed its own checklists for review of change orders. You should discuss those procedures with the particular reviewer who is involved.

Grantee Notification

You must be formally notified of the action taken on the completed change order request. This notification informs you that one of the following actions has been taken:

- o If prior approval is required:
 - costs of change order are allowable (or partially allowable as stipulated);
 - costs of change order are not allowable.
- o If prior approval not required:
 - change order is approved and costs are allowable (or partially allowable as stipulated);
 - change order is approved, but costs are not allowable;
 - change order is not approved and the reason.
- o In all cases, that approval of a project change does not obligate EPA to any increase in the amount of the grant or grant payments unless an amendment to increase the grant is

also approved. This limitation should be stated in the approval and appropriate action taken toward amending the grant if necessary. You should also be informed of any restrictions on grant amendments, such as the State agency denying certification of a grant increase or any regulation which limits grant increases.

Review of Allowability Determination

You may request a review of the allowability determination. This applies to determinations by the State agency or EPA project officer. Details of the disputes procedure are explained in Section 14.9.1 (40 CFR Part 30, Subpart L and 40 CFR, 35.3030).

14.9.5

REFERENCE MATERIAL

For further information on change order preparation, you may wish to refer to the EPA publication "Management of Construction Change Orders, A Guide for Grantees - March 1983."

PART IV. FINANCIAL AND PROCUREMENT CONSIDERATIONS

CHAPTER 15

FINANCIAL CONSIDERATIONS

15.0

ALLOWABLE AND UNALLOWABLE COSTS

Not all costs associated with your wastewater treatment project are allowable for grant participation (Appendix A to 40 CFR Part 35 Subpart I). These regulations provides a specific list of allowable and unallowable costs based on the Clean Water Act (CWA) and Federal cost principles. The list should be consulted as you prepare a grant application, a payment request or during audit as appropriate.

Questions of clarification or requests for inclusion of costs as allowable and not otherwise determined are to be made through your reviewing agency.

Resolve questions of allowable costs as early as possible to preclude potential adverse financial impacts upon your community from decisions made after Federal audit.

15.1

REPLACEMENT COSTS

Grant assistance is authorized for treatment works including new facilities or extensions, improvements, remodeling, additions and alterations to existing facilities (40 CFR Part 35, Appendix A). Grant assistance is not provided to replace, through reconstruction or substitution, treatment works that fail prior to initiation of operation, during their design life (generally 20 years), or fail to meet project

performance standards and which received assistance under the Water Pollution Control Act of 1956 or its amendments (except qualifying innovative or alternative projects; Section 6.7 and Section 15.2).

15.2*

INNOVATIVE AND
ALTERNATIVE
TECHNOLOGY
REPLACEMENT
GRANT

During facilities planning you evaluated innovative and alternative I&A technology projects as a potential cost-effective solution to your wastewater problem. In addition to the cost or energy savings or conservation techniques which I&A projects realize, an additional incentive authorized by the CWA is the potential for a 100 percent modification or replacement (M/R) grant if the project fails within 2 years following initiation of operation.

For the purpose of 100 percent M/R funding, "failure" is defined as the inability of the entire system or significant elements to meet project performance standards, where such failure is due to the higher risk elements of design. M/R 100 percent funding is not available where the failure of an I or A system or component is covered by a warranty or caused by negligence.

M/R 100 percent funding is also not available where the non-I&A portion fails and the technology failure is not caused by the I&A component.

When failure occurs, you are encouraged to pursue independent corrective actions analysis as part of the procedures to establish a firm basis for requesting M/R grant assistance.

Evaluation of requests for 100 percent M/R grants involves a determination that: (a) project performance standards have not been met; (b) the failure results in a significant increase in operations and maintenance O&M costs and/or requires additional significant capital expenditures to correct the problem; and (c) the failure is not attributable to negligence on the part of any person. Negligence should be evaluated as the last item since the determination is based upon both technical analysis and legal findings.

Initial screening will verify that there is good justification for a detailed evaluation or rejection of the request for reasons such as expiration of the two-year period, hydraulic or organic overloading of the system or lack of an adequate O&M program.

When results of the initial screening indicate that failure of an I or A technology is the probable cause, a performance evaluation should be prepared and address the following areas:

- o Description of the failure including date of occurrence, manner of failure, and effects of failure;

- o Quality assurance (if actual environmental data is to be collected and evaluated, Section 4.4));

- o Evaluation of the current O&M program;

- o Evaluation of system design, including analysis of process theory and identification of potential design deficiencies impacting system performance;

- o Identification and evaluation of potential construction deficiencies contributing to the failure;

- o Evaluation of equipment performance and warranties;

- o Evaluation of process warranties and performance guarantees; and

- o Description of outstanding claims and issues of negligence, where appropriate.

15.3

FORCE ACCOUNT As a matter of public policy, use of private firms for project work is encouraged. However, some of your project work may be performed more efficiently and economically using municipal employees. This procedure is termed "force account." You may use this procedure for construction work only if costs are properly documented (40 CFR Part 30) and your municipal employees are qualified to perform the work. The costs for force account work, if any, during facilities planning and project design are not allowable for grant participation, but the work may be done under the allowance to be paid as part of a subsequent Step 3 Grant.

Where it is proposed to use force account during Step 3, certain restrictions and limitations are imposed to ensure the proper use and accounting of public funds.

15.3.1

PRIOR APPROVAL Prior written approval by the reviewing agency (for building) is needed for the use of force account, if the estimated costs are greater than \$25,000. Approval is based on overriding reasons for force account rather than private firms and can be given only if one of two criteria is met (40 CFR, 30.520):

- o The work can be accomplished more economically by the use of this method compared with competitive bidding procurement;

- o Emergency circumstances dictate its use.

To satisfy the criterion of improved economy you should substantiate:

- o That all anticipated project administrative costs including salaries of administrative employees and travel expenses have been included and are allowable for grant participation;

- o The proposed method of time-keeping and timechecking;

- o The method of establishing wage scales for laborers, mechanics, and supervisory employees;

- o The indirect cost rate and its method of allocation to the project;

- o The method for computing allowances for use, repair and overhaul of municipal equipment, rental rates and period of use for rental equipment;

- o The method of computing depreciation costs of small tools and other expendable items or equipment;

- o The method of disposing of unused materials and tools and any appropriate cost adjustments.

15.3.2

OTHER FORCE ACCOUNT CONSIDERATIONS In addition to substantiation of improved economy, additional controls are needed, such as:

- o Adequate cost accounting records substantiating direct and indirect costs;

- o Maintaining other ongoing required municipal functions;

- o Limiting minor construction work (as a matter of program policy);

- o Employee time sheets approved and signed by a supervisor accounting for all hours worked in a day or week by project (whether or not the project is Federally funded);

- o Control procedures ensuring that all materials, supplies, equipment and labor cost charged to the project are actually used in connection with the project;

- o Assurance that the Copeland Anti-Kickback Act provision will be enforced;

- o Adequate insurance including fire and extended coverage, workmen's compensation, public liability and property damage, and "all risk" in accordance with local or State law.

The force account method of performing small portions of project work requires careful analysis and planning beforehand and management and cost control after work is initiated.

15.4

PAYMENTS

Three needs arise with regard to grant payments: (1) your need for timely payments to contractors, (2) your need for timely payments from EPA, and (3) EPA's need to project outlays for financial management control. These needs can best be met when there is agreement initially as to amount and timing of payment requests. At the time of grant application you must prepare a schedule of anticipated grant payments indicating months from grant award and estimated amount of

each payment. For Step 3 projects you may request 50 percent of the Federal share of the allowance immediately after grant award and the balance after award of all prime subagreements for building the project. For Step 2+3 projects where no facilities planning grant was awarded you may request 30 percent of the Federal share of the allowance immediately after grant award, 35 percent when the design is 50 percent complete, and the balance after award of all prime subagreements for building the project. For Step 2+3 projects for which a facilities planning grant was awarded, you may request 50 percent of the Federal share of the allowance when the design is 50 percent complete and the balance after award of all prime subagreements for building the project.

Payment schedules may be modified in consultation with the project reviewer. Your requirements are combined with those of other projects and used to forecast Federal outlay requirements for the fiscal year.

EPA has a goal of 22 calendar days from receipt of your payment request to your receipt of a check from the Department of the Treasury. This presumes your payment request is consistent with the work progress, is not held up for a specific reason (e.g., plan of operation), and is in line with your payment schedule. Grant payments are based on costs incurred and are due and payable. You should consider payment policies and procedures that will reduce the cost of the contract. These include payment discounts to determine the low bid, progress payments to architects/engineers (A/E's) and construction contractors, and minimum retainage from progress payments.

Payment discounts are governed by EPA procurement regulations (40 CFR 33.430). However, progress payments and retainage from progress payments may be governed by your State law. You may make progress payments for the amount and value of work and services performed. You may also make progress payments for materials or equipment delivered to or stocked near the construction site. You may also include payment for undelivered specifically manufactured items or equipment, provided provisions regarding appropriate insurance, security, and protection of Federal interests and your interests in progress payments are included in your contract documents. If your contractor is making satisfactory progress, and there is no other specific reason for withholding a portion of the progress payments, you should retain only that amount necessary to assure completion of your project.

Several States have laws or are considering legislation that requires payment of interest penalties to contractors for late payment of legitimate invoices. Federal law prohibits the use of grant funds for payment of such interest penalties requiring that "(a) in no case shall an obligation to pay such interest penalties be construed to be an obligation of the United States," and "(b) any payment of such interest penalties shall not be made from funds provided to a grantee by a Federal agency nor shall any non-Federal funds expended for such interest penalties be counted toward any matching requirement applicable to that grant."

Care in preparing payment requests and contact with the payment official will expedite processing of your payments.

If payments are not made promptly by you to your contractor, interest earned on EPA grant funds will be recovered at audit.

15.4.1

PREAWARD COSTS In general, grant assistance will not be provided for building work performed prior to grant award. An exception to this rule is:

o In emergencies or instances where delay could result in significant cost increases and where the regional administrator has given prior approval. Examples of this condition are: procurement of major equipment requiring long lead times; field testing of I or A technologies; minor sewer rehabilitation, acquisition or option for purchase of eligible land; or advance building of minor portions of the treatment works.

Where the instances described above exist, the reviewing agency may approve the preliminary Step 3 work but only after completion of the appropriate environmental review (Section 9.2.2). If preliminary Step 3 work is approved by the reviewing agency, such approval is not an actual nor implied commitment of future grant assistance and you proceed at your own risk. In addition, preaward procurements are subject to EPA regulations (40 CFR Part 33 for A/E services; Part 4 for acquisition of real property).

Approval of preliminary Step 3 work as a preaward cost is not to be confused with the allowance (Section 13.5) for facilities planning and project design. Preparation of a facilities plan and design of the project are part of the application process and

do not require (although it is recommended) approval before grant application.

If you believe that preliminary Step 3 work on your project must begin before grant award, contact your project reviewer for additional guidance.

15.4.2

INTERIM PAYMENTS Procedures for filing interim payment requests (EPA Form SF-271, Outlay Report and Request for Reimbursement for Construction Program) vary from region to region or State to State. The frequency and dollar amounts should agree with the payment schedule in your grant agreement and any other special grant conditions.

One item needing clarification from your project reviewer concerns supporting documentation, if any, which is to accompany a payment request. For instance, such documentation may include invoices from your A/E or the A/E's estimate of work-in-place.

15.4.3

FINAL PAYMENT Final grant payment for building the project will be made after satisfaction of all applicable regulations and any special grant conditions. The final grant payment for building the project is the balance of the Federal share of the allowable project costs adjusted to actual costs incurred. The last Federal grant payment may be made (subject to negotiations with your reviewing agency) one year after initiation of operation and will include all allowable costs associated with project performance (Section 14.6).

The Federal share of refunds, rebates or other amounts (including any

interest that accrue to the project are credited to the State allotment or paid to the United States.

By accepting the final payment you agree to release and discharge the United States, its officers, agents, and employees from all liabilities, obligations and claims arising out of the project work or under the grant, subject only to exceptions previously specified in writing between you and the reviewing agency.

15.5

GRANT INCREASES/ DECREASES Grant increases/decreases are most often associated with construction and are discussed in Section 14.1.

15.6

AUDITS

By accepting the grant you agree that all project related books, documents, records and papers and those of your contractors are accessible to the reviewing agency or its authorized representatives for audit purposes. The objective of the audit is to determine whether financial operations are conducted properly, the financial statements are presented fairly, you complied with laws and regulations affecting the expenditure of Federal funds, internal procedures were established to meet the objectives of the grants program and financial reports contain accurate and reliable information.

You must conduct an audit at least once every 2 years to evaluate the integrity of your financial transactions and reports and to determine compliance with the terms of your assistance agreement

(OMB Circular A102, Attachment P). You should conduct your audit on an organization wide basis, and submit a copy of your report to your cognizant Federal agency (EPA Construction Grants Program).

You will need financial records which establish an audit trail substantiated by receipts and disbursements. In addition, the audit will ensure that Step 3 or approved preaward procurement procedures were properly followed. For example, your records may show that you purchased, received and paid for a piece of equipment. If the equipment price exceeded \$10,000, you should have received competitive bids and purchased from the lowest responsive, responsible bidder. If you did not receive bids or don't have records of your procurement action, the cost of the equipment may possibly be excluded from Federal grant participation.

15.6.1

FINANCIAL RECORDS

Your grant assistance financial records should

be kept separate from your other municipal financial records. Where cross referencing is necessary, it should be provided.

The accounting records typically include:

- o Cash receipts register;
- o Check disbursement ledger and cancelled checks;
- o Cost control ledger;
- o Journal voucher;
- o Payroll records, if applicable;
- o Property record, if applicable.

The accounting system should be on a double entry basis with a general ledger. The financial management system should include a series of checks and balances and have a clear separation of functions and approval levels. Your accountant should be familiar with these practices and may obtain additional guidance from EPA's "Accounting Guide for Construction Grants," October 1977, prepared by Office of Resources Management, Financial Management Division.

15.6.2

AUDIT PROCEDURES AND REPORTS After final onsite review by the reviewing agency and satisfactory resolution of any deficiencies, your project is ready for audit. Keep the project records in a safe place and under your control (40 CFR, 30.501).

The audit will be performed by the reviewing agency, other Federal agencies or an accounting firm hired by the reviewing agency. The auditors will contact you to arrange an appointment for audit purposes. Auditors will obtain preliminary information from the reviewing agency's project files. During the audit of your records the auditors will monitor your files for further documentation and make spot checks to verify specific items. The audit may last from a few days to weeks and you should provide adequate work space and make available those employees who may be able to respond to questions raised by the auditor.

At the completion of the audit, the auditors will prepare an audit report and review it with you. If exception is taken to some of the items you claimed for grant participation, you have an opportunity

to discuss it with the auditor and provide additional information or documentation. Evaluation of this additional information could result in revisions to the preliminary audit report.

The draft audit report is sent to you and the reviewing agency for action. You and the respective staffs may discuss with the auditors any exceptions and try to resolve differences. In some cases, you may be contacted by the auditor to clarify or provide additional documentation, before the draft report is submitted. During this time you may provide further clarifying documentation or explanations. You will be advised of the final agency position on all exceptions, normally within 120 days from the date of the final audit report. This final determination will also inform you of your right to request a review of the audit report. (40 CFR Part 30, Subpart L).

CHAPTER 16

PROCUREMENT

16.0

INTRODUCTION Procurement is the purchase of materials, services, and construction. Services include accounting, engineering, architectural, legal, and other consultant subagreements. The objective of a procurement system is to obtain needed goods and services at a fair and reasonable price through the use of free and open competition appropriate to the type of project work to be performed. When tax dollars are involved, it is necessary to impose safeguards in public procurement to protect against potential fraud and irregularities.

In Chapter 11 aspects of procurement related to project design and the preparation of construction drawings and specifications (e.g., buy American, bonding, single material, etc.) are discussed. Procurement actions related to management of change orders are discussed in Chapter 14. This chapter, however, provides guidance from an overall perspective to assist you in understanding and satisfying the Federal minimum requirements for procurement. This guidance is not regulation, and you may follow other procedures which satisfy the minimum requirements of EPA's procurement regulations.

The EPA procurement regulations entitled "Procurement Under Assistance Agreements" (40 CFR Part 33) reflect changes to and a consolidation of earlier procurement regulations. Final grant regulations were published by EPA on February 17, 1984, and the final procurement regulations were

published on March 28, 1983, and amended on July 1, 1983. Because of some changes in the final regulations you have several options available to you depending on the date of your grant award.

- (1) If your grant is awarded after March 28, 1983, your procurement must comply with the all of the requirements and effective dates of the final regulation.
- (2) If your grant was awarded before May 12, 1982, you may follow the procurement regulation which was in effect at the time of grant award; use the May 12, 1982, interim-final regulation provided you completed the certification form (Section 16.1); or use the March 28, 1983, final procurement regulation, whichever you prefer.
- (3) If your grant was awarded between May 12, 1982, and March 28, 1983, you must use the May 12, 1982, interim-final regulation, if you completed the certification form before March 28, 1983. If the certification form was not completed and submitted before March 28, 1983, you must comply with the final regulation.

The procurement regulation shifts the responsibility for conducting procurement to you, the grantee. For example, you may certify that your procurement system meets the intent of the minimum Federal requirements (or State requirements where applicable) and, therefore, your procurement actions will not normally

be reviewed by your reviewing agency. Also, since grant assistance will be provided only for construction (initiate design for Step 2+3 projects) there will be no Federal oversight of your procurement action for goods and services required in preparing your facilities plan and/or project design, as appropriate.

The full responsibility for procurements prior to and after grant award rests solely with you (40 CFR, 35.2118). In order to protect your interests you should give careful consideration to the procurement procedures you use and particularly to cost or price analyses (Section 16.5.6).

In the discussions which follow the term "grant agreement" refers to the agreement and amendments between you and EPA. The term "subagreement" refers to the agreement between you and a contractor (architect/engineer (A/E), construction contractor, etc.) or the agreement between your contractor and a subcontractor.

Remember as a grant recipient you are responsible for maintaining a written code or standard of conduct governing the award and administration of subagreements supported by EPA funds.

16.1

PROCUREMENT	At the time of grant
CERTIFICATION	application you
	must review your

Procurement System to determine whether your system meets regulatory requirements (40 CFR, Part 33), and submit to your reviewing agency your "Procurement System Certification" (EPA Form 5700-48). If your system meets the requirements, you may elect to use your own procurement system. If it does not meet the

requirements of the regulations, including the procedural requirements (40 CFR, Part 33, Appendix A), you must allow EPA the opportunity to review all proposed subagreements before you award them. Wherever possible, you are encouraged to use your own procurement system. You may also wish to consider modifying your system as appropriate to include some of the Federal requirements which may not presently be in your system or non-EPA funded work (e.g., cost and price analysis).

The principal advantage to using your procurement system (assuming it meets the minimum Federal or State requirements), is that once you have certified affirmatively you need submit only minimal documentation to your reviewing agency and you do not need to submit proposed subagreements for preaward review (Section 16.12). This, in turn, saves both time and paperwork for you and your reviewing agency. A second advantage is that your procurement system will probably satisfy the procurement requirements of other Federal agencies from whom you may obtain loans or grants. Care must be exercised, however, if you do certify your procurement system as meeting the Federal minimum requirements. Even though there are distinct advantages to using your own procurement system, it may still be to your advantage to allow EPA to review your proposed subagreements because the possibility exists that excessive costs may be incurred only to be declared ineligible, unallowable or improperly allocated by an auditor after completion of the project.

Adoption of a new system or modification of your existing system to meet Federal minimum requirements results in a procurement system which

will serve you well for all municipal procurements regardless of whether or not Federal funds are involved.

16.2

PROCUREMENT MANAGEMENT AND REPORTING

This and the following sections describe good procurement management practices based on the EPA regulations. It is recommended that a public official, preferably a full-time municipal employee, be assigned responsibility to coordinate all procurement actions. This person may be titled "purchasing agent," "procurement officer," "procurement manager," "service director," or other similar title which conveys job responsibility. The purchasing agent (PA) should be or become very familiar with the procurement system you will use and act as a clearinghouse for all matters concerning procurement.

The PA should maintain detailed documentation of all procurement actions. The documentation should include:

- o Correspondence;
- o Logs of telephone and personal conversations;
- o Minutes of meetings;
- o Basis for contractor selection;*
- o Justification for the procurement method selected;*
- o Justification for any specification which does not provide for maximum free and open competition;*
- o Justification for the type of subagreement selected;*

- o Basis for award cost or price, including a copy of the cost or price analysis and documentation of negotiations;*

- o Basis and justification for rejection of any or all bids;*

- o Bid tabulations and contract documents;*

- o Payment files;

- o Protest files.

Items marked with an * in the list above must be submitted to your reviewing agency for approval prior to awarding a subagreement if you do not have a certified procurement system or if your certification has been revoked.

As a general policy the PA should document in writing anything that has to do with procurement and maintain the records for review at the time of Federal audit. Although you may have certified that your procurement system satisfies Federal requirements, you must provide your reviewing agency with a tabulation of all bids and/or proposals received and the name, amount and starting and completion dates of the successful contractor(s) for all subagreements expected to exceed \$10,000 in 1 year. If you wish to use an innovative procurement method or if you propose a noncompetitive award, you must obtain your reviewing agency's prior approval even if you have a certified procurement system.

The PA should also duplicate or summarize the section of your procurement system concerning a code or standards of conduct in public contracting and distribute it by

memorandum to appropriate municipal officials and employees. The intent of the distribution is to alert employees that a code of conduct exists and to preclude conflicts of interest.

16.3

METHODS OF PROCUREMENT

The following are four different methods of procurement which may be used depending upon the circumstances: (1) formal advertising, (2) competitive negotiation, (3) noncompetitive negotiation, and (4) small purchase. For all subagreements expected to exceed \$10,000, the use of the formal advertising is preferred. However, there are instances when you cannot draft an adequate or realistic purchase description to meet the elements of formal advertising. In those circumstances you should use the competitive negotiation method. The least favored procurement method is noncompetitive negotiation. For purchases which do not exceed \$10,000, follow the small purchase rules.

It should be noted that EPA's procurement regulation prohibits practices which unduly restrict or eliminate competition. Examples of practices considered to be unduly restrictive include:

- o Noncompetitive practices between firms;

- o Organizational conflicts of interest;

- o Unnecessary experience and bonding requirements;

- o State or local laws, ordinances, regulations or procedures which give

local or in-State bidders or proposers preference over other bidders or proposers in evaluating bids or proposals; and

- o Placing unreasonable requirements on firms in order for them to qualify to do business.

16.4

FORMAL ADVERTISING

Formal advertising is the preferred method of procure-

ment and is the most common method used to procure construction contractors. Formal advertising includes competitive bidding procedures and, in general, follows these steps:

- o Solicitation for bids - a formal public announcement that sealed bids will be received for the specified work;

- o Bid receipt and opening - public opening of bids;

- o Bid evaluation - evaluation to determine the lowest responsive, responsible bidder;

- o Subagreement award.

The following sections describe each of these steps as related to the procurement of construction contractors. Formal advertising for other than construction procurements, will follow essentially the same procedure.

16.4.1

SOLICITATION FOR BIDS

A formal public notice, more commonly called an

"Invitation for Bids," is placed in newspapers, trade journals, and

generally in the case of large projects, in publications with nationwide distribution. If your estimated project construction cost is expected to exceed \$10 thousand (10,000) and you do not have a certified procurement system, you must publish the invitation for bids in trade journals of nationwide distribution for at least 30 days before bid opening and submit proof of advertising to your reviewing agency (40 CFR, Part 33, Appendix A).

The public notice describes your project, indicates where bidding documents, such as construction drawings and specifications, may be obtained and specifies a time, date and location for opening of bids. Adequate time generally a minimum of 30 days) is allowed between the date of public notice and the date of bid opening.

16.4.2

BID RECEIPT AND OPENING

Bids are received in sealed envelopes from prospective contractors and publicly opened at the date and time specified in the public notice. Bids are reviewed for completeness and the name and amount of each bid is read aloud. Obvious discrepancies are noted and announced. After all bids have been opened, you announce the name and price of the apparent low bid or bidders.

During bid receipt and opening it is possible that a problem may arise (late bidder, incomplete submission, etc.). You may wish to have your A/E or attorney present at bid opening since these situations may require their advice.

16.4.3

BID EVALUATION

You may have your A/E or attorney

review bids, check arithmetic computations, check references, insurance coverage, bid bonds, minority and women's business compliance, etc., but you are responsible to assure that bids are evaluated in accordance with the criteria described in the bidding documents (Section 11.2.1). You may reject all bids only when there are sound, documented business reasons to do so. Subagreements are to be awarded to the lowest responsive, responsible bidder.

If you are using a certified procurement system, (Section 16.1) and assuming bids are within your estimate and therefore do not require a grant amendment, you may award subagreements as soon as desired after bid opening. Submit to your reviewing agency, for informational use only, a bid tabulation and the name, amount and schedule for successful bidder(s). As a major purchaser of goods and services, you can be both prime targets for, and sensitive detectors of, antitrust violations. Types of antitrust violations you should look for include, but are not limited to, such things as bid suppression, complementary bidding, bid rotation, market division, price fixing, and other types of collusion. If you detect an antitrust violation, you can perform a triple public service: (1) you can end a practice that is costing your agency money and is costing consumers and taxpayers millions of dollars; (2) you can also bring monies to the treasury, since criminal penalties collected in antitrust enforcement go into the general treasury fund; and (3) you can help recoup the additional prices paid since the government may bring antitrust damage actions and actions under the Federal False Claims Act.

If a grant increase is necessary, contact your reviewing agency before contract award (Section 14.1.1).

If you do not have a certified procurement system or if your certification has been revoked, you must comply with the procurement regulation (40 CFR, Part 33). In addition, you should also submit the following information to your reviewing agency:

- o A tabulation of all bids received;

- o Copies of the proposal form and bonds from the successful bidder(s);

- o A statement from your authorized official giving the names of bidders to whom you have awarded subagreements and the amount of each subagreement;

- o Proof of public notice indicating the circulation dates and the time for receipt of bids (minimum of 30 days);

- o A copy of each addendum issued during the bidding period or acknowledgement of its issue by the successful bidder at least 5 days before bid deadline;

- o Signed copies of the certification by the contractors regarding compliance with Equal Employment Opportunity requirements;

- o A justification indicating why the low bidder is not responsive or responsible if award is to be made to other than the low bidder;

- o A revised project cost estimate as necessary.

If the bids differ from your A/E's estimate, it may be necessary for you to request adjustment to your grant (Section 14.1). Upon approval by your reviewing agency of your construction procurement procedures, and after adjustment of your grant if required, you may award subagreements.

16.5

COMPETITIVE NEGOTIATION

In most cases, procurement of services related to the construction of treatment works uses the competitive negotiation method. This method, includes the following steps:

- o Public notice - advertising your need for services and requesting proposals;

- o Evaluation of proposals - a determination of the qualified offerors and acceptable proposals;

- o Negotiation and award.

An optional procedure is available for the procurement of A/E services if allowed by State or local laws. It differs from the above steps in evaluation criteria, negotiation, and use of the prequalified list. The following sections briefly describe each of these steps.

16.5.1

PUBLIC NOTICE

The objective of the public notice is to announce your need for services and request proposals from qualified firms. Your public notice should receive wide circulation and include a notice in journals, newspapers or publications of general circulation over a reasonable area. If you do not have a certified procurement system, your notice must be published in

professional journals, newspapers or publications of general circulation for at least 30 days before the deadline for receiving proposals.

The public notice describes the scope of services required, the method by which associated documents may be obtained or examined, the evaluation criteria (including the relative importance attached to each criterion), and the deadline and place for submitting proposals.

16.5.2

EVALUATION OF PROPOSALS

Proposals are to be uniformly and objectively evaluated in accordance with the criteria stated in the public notice. The objective of the evaluation process is to determine qualified offerors and acceptable proposals.

16.5.3

NEGOTIATION AND AWARD OF SUBAGREEMENT

Unless the RFP states that the award of the subagreement is to be based solely on evaluation of initial proposals, you must conduct meaningful negotiations with all of the best qualified firms submitting acceptable proposals and permit revisions to obtain best and final offers. During negotiations, you must not disclose the identity nor any other information derived from proposals of competing firms. A subagreement is awarded to the responsible firm whose proposal is determined to be the most advantageous to you, taking into consideration price and other evaluation criteria stated in the public notice.

16.5.4

OPTIONAL A/E SELECTION PROCEDURE

If the subagreement to be awarded is for A/E services, you may evaluate and

select the most qualified firm based on technical qualifications only.

In so doing, the following procedures may be used:

Prequalified List

Proposals may be requested from a firm on a prequalified list or from responses to a Request for Statements of Qualifications. If a prequalified list is used, you must:

- o Develop the list using public notice (Section 16.5.1) procedures;
- o Update the list at least every six months;
- o Review and act on each request for prequalification made more than 30 days before the closing date for receipt of proposals or bid opening.

Request for Qualifications

A convenient mechanism used by many municipalities for initially screening firms is the use of a Request For Qualifications (RFQ). The RFQ is included in your public notice (Section 16.5.1) and requests firms to express their interest in working with you on a specific project. The RFQ provides firms an opportunity to present in writing their qualifications and related experience. The RFQ does not request prices and is followed by a Request for Proposals to those firms judged qualified. After receipt of the qualification statements either the purchasing agent or a committee of municipal officials reviews them and selects several firms which are found to be the best qualified. Often, in evaluating firms it is helpful to contact past clients to determine how well the firm

performed. Documentation of the RFQ responses and the criteria used to select the qualified firms is essential. Notify unsuccessful firms of your decision and request proposals from the firms selected.

Request for Proposals

A request for proposals is either announced in a public notice (Section 16.5.1), sent to prospective bidders from your prequalified list, or sent to candidate firms selected through the RFQ procedures described above. Your notice should describe your project requirements in detail including such items as:

- o Existing facilities;
- o How associated documents, including 40 CFR 33.295 and Subparts F and G, may be obtained;
- o Time requirements for RFP submission and completion of the project work;
- o Unique problems;
- o Previous studies;
- o Persons to contact if the firm has questions or wishes to visit the project site;
- o Criteria to be used in evaluating proposals and relative importance of each criterion;

Request that firms prepare a detailed technical proposal of how they would undertake your project work. The PA should document all telephone conversations, correspondence or other communications with firms. If clarifying or additional information is provided to one firm, provide the same information to all other candidate firms.

After receipt of proposals either the PA or a committee of municipal officials reviews them and initially ranks the firms in the order of preference based on criteria in the public notice. Criteria which could be used in ranking include:

- o Specialized experience and technical competence;
- o Past record of performance (possibly contact previous clients);
- o Ability to perform work in the time you require;
- o Familiarity with your type of pollution problems;
- o No personal or organizational conflict of interest.

The decision as to how much weight is given each of these and other criteria is yours (assuming that you do not show prejudice or bias based on frivolous criteria) but it must be set forth in the RFP.

You must conduct interviews with the firms judged qualified. If so, you should allow approximately one and one-half hours for each interview. You may wish to require the firms to have the project officer they will assign to your project present at the interview. Most often firms will have a 15 to 20 minute presentation prepared. Thereafter, you will ask questions and evaluate responses. Ideally, you should have prepared in advance a series of questions which you will ask of all firms to use as a common basis for comparison. Should the interview result in a need for a revised proposal, request that the revision be submitted as soon as possible.

Negotiation and Award of Subagreement

After evaluating proposals and possibly conducting interviews, determine the most qualified firm based on your evaluation criteria. Negotiate the scope of work and corresponding price with that firm. If you are unable to reach agreement, formally terminate negotiations and begin negotiations with the next most technically qualified firm. Continue this procedure with each succeeding firm in the order of their technical ranking until you are able to reach agreement. Once negotiations are terminated with a firm, you cannot go back and renegotiate with that firm. A subagreement is awarded to the most qualified firm whose proposal is determined in writing to be acceptable based upon the evaluation criteria in the RFP and after negotiation of a fair and reasonable price.

16.5.5

USE OF THE EPA procurement SAME A/E DURING regulations applicable to projects CONSTRUCTION receiving grants before December 29, 1981, provided for the continuation of A/E services from one grant step to another without further advertising or competition. EPA no longer provides Step 1 nor Step 2 grants nor must you follow the EPA procurement regulations in procuring A/E services for facilities planning and design. However, EPA wishes to continue the earlier policy of A/E continuation provided that certain conditions are met.

If you are satisfied with the qualifications and performance of the A/E firm which provided facilities planning or design services for your project and wish to retain that firm during building of the project,

you may do so without further public notice and evaluation of qualifications provided:

- o You received a facilities planning (Step 1) or design (Step 2) grant and selected the A/E in accordance with EPA's procurement regulations which were in effect at the time of grant award; or

- o Your reviewing agency approves noncompetitive procurement in accordance with the current procurement regulations (33.605(d)) for reasons other than, you simply want the same A/E firm;

- o You are able to certify that the following conditions have been met:

- Your initial RFP clearly stated the possibility that a subagreement could be awarded for A/E services during building of the project; and
- The A/E was selected for facilities planning or design in accordance with the procedures for competition 33.230) with appropriate documentation (33.250(a)(1)(3) and (b)) and using either the small purchase, formal advertising or competitive negotiation procedures (40 CFR Part 33);
- No conflict of interest (33.715(a)(3)(iv)).

Even if you satisfy the conditions for continuing with the same A/E firm, the subagreement awarded to the firm must comply with EPA's current procurement regulations (Section 16.8).

16.5.6

COST AND PRICE CONSIDERATIONS

In competitive negotiation procurement, cost is one of the evaluation factors or criteria used in the selection process. In the optional A/E selection procedure, technical qualifications of the firm are the most important criterion and price is negotiated after initial selection. However, price is important and you must conduct a cost analysis. You must obtain detailed cost data from a prospective firm to determine the reasonableness and necessity of the proposed cost. To establish the reasonableness and necessity of costs you should consider prices charged in the surrounding geographical areas for similar work, the complexity of the tasks involved in the work and the risk to the candidate firm. Where there is no price competition or where price is based on cost analysis, profit must be negotiated as a separate element.

Recognizing that the Federal cost principles are applicable to your grant and all subagreements under your grant, a brief, simplified description of the basic elements of cost is provided below.

- o Direct Costs - These are costs specifically incurred for your project and will generally include labor, travel, materials and supplies, and reproduction costs (for example, printing of multiple copies of construction drawings and specifications). Generally, the largest direct cost is labor.

- o Indirect Costs - These are actual costs the firm incurs by providing the services you need and include rent, utilities, telephone, employee insurance and benefits, accounting

functions, and other costs of running a business. Usually indirect costs are lumped together either as overhead, general and administrative burden, or a combination of both. Firms generally apply the same indirect cost rate to all their projects. Indirect costs vary among firms. Most often indirect costs are shown as a percentage of direct labor. For example, if the direct labor is \$100, the indirect cost may be \$130 for a total cost less profit of \$230. Indirect cost accounting systems vary widely and you are likely to encounter various methods.

One aspect of the Federal cost principles with which you should be aware and which is related to indirect costs concerns unallowable costs. Unallowable costs as used in this context are costs which many firms generally consider as overhead but which may not be included in computing the indirect cost rate on Federally financed projects. A few of the more clearly defined unallowable costs are: interest on borrowed capital, bad debts, advertisements or promotional materials, and entertainment. These costs may not be included in computing indirect cost rates where Federal funds are involved.

o Profit - This is the net proceeds to the owners of the business after all allowable costs have been deducted from sales. Because this definition of profit is based on Federal cost principles, it may vary from a firm's definition of profit. Profits are to be negotiated as separate elements of the price, and are to be reasonable and reflect the complexity of the work and the elements of risk associated with it.

If you do not have a certified procurement system, you must submit to

your reviewing agency for approval cost and price data contained in or similar to EPA's Form 5700-41 "Cost or Price Summary Format for Subagreements Under U.S. EPA Grants."

16.6

NONCOMPETITIVE NEGOTIATION Noncompetitive negotiation is the least favored method of procurement and may only be used when the other procurement methods are not feasible.

Specifically, award of a subagreement on grant-assisted projects employing noncompetitive negotiation may be done only under the following circumstances:

- o An item is available only from a single source;
- o Public exigency or emergency requires immediate action;
- o Authorization by your reviewing agency;
- o After solicitation from a number of sources, competition is determined to be inadequate.

16.7

SMALL PURCHASES Most procurement systems recognize that there are times when the procedures used could cost more than the savings they are intended to realize. Therefore, provisions are made in EPA regulations for small purchases, i.e., purchases under \$10,000. Your existing procurement system or State requirements may set a lower dollar limit.

When you need to make a small purchase, contact suppliers and obtain a telephone price quotation or a brief

written proposal. Try to obtain a reasonable number of quotations (ideally 3 or more) and make the most advantageous selection. Document your files to demonstrate that you consulted more than one source for the item but you need not advertise, negotiate, nor follow the other detailed procurement procedures.

16.8

SUBAGREEMENTS Some types of subagreements are preferable in certain instances and some are not allowed.

o Fixed Price - Where a scope of work can be clearly defined (such as in the procurement of construction contractors using bidding documents including construction drawings and specifications), a fixed price or lump sum subagreement is awarded. In the case of other services, where the scope of work can be clearly defined, a fixed price subagreement may be negotiated. This type of subagreement has a fixed price no matter what the final costs are unless a change in the scope of work (change order) is negotiated.

For services other than construction contractors, this type of subagreement is not used as extensively as the cost-plus-fixed-fee type, primarily because of the difficulty of clearly defining the scope and limitations of work. Where applicable, however, the fixed price subagreement is the easiest to administer.

o Cost-Plus-Fixed-Fee (CPFF) - The most commonly used type of subagreement for services on grant assisted projects (other than construction) is the CPFF. With a CPFF subagreement a cost ceiling and fixed fee are

established for the work. The ceiling cost is made up of direct costs and indirect costs. If, for example, the cost ceiling is \$200 consisting of \$100 direct costs, \$100 indirect costs plus \$30 fixed fee, but the project actually costs less (say \$80 direct, \$80 indirect), you pay only \$190 (\$80 direct, \$80 indirect, but full fixed fee of \$30). On the other hand, if the project costs are expected to exceed the ceiling, the contractor must advise you in advance and you can complete the original contract, approve of the increased cost, if justified, or terminate the contract. The contractor is not required to incur costs in excess of the ceiling nor even complete the project unless you negotiate and authorize a new cost ceiling.

If the increased costs are for additional work within the original scope of services, the contractor does not receive any increase in fixed fee. If the additional work is beyond the scope of original subagreement, the contractor may be authorized to do the additional work but also may claim an additional fixed fee.

CPFF subagreements are used most often when it is difficult to accurately and clearly define all of the work.

o Percentage of Construction Cost - This type of subagreement is not allowed. Used many years ago, this type of subagreement established the price as a percentage of the construction costs. This is no longer acceptable when Federal funds are involved.

o Cost Plus Percentage of Cost - This type of contract applies a multiplier, including profit, to direct costs and is not acceptable when EPA funds are involved.

o Other Subagreement Types - Other types of subagreements exist, some acceptable, some less desirable. If you are dealing with an experienced firm that has previously done Federally assisted work, the firm will be familiar with acceptable forms of subagreements. Contact your reviewing agency if you have additional questions concerning the form of subagreements.

o Subagreements Awarded by a Contractor - All subagreements must include provision for compliance with: debarment and suspension (Section 13.2); responsibility requirements (Section 16.4.3); profit requirements (Section 16.5.6); small, minority, women's and labor surplus area business (Section 16.9); specification requirements (Section 11.1.14); Buy American provisions, if applicable, (Section 11.2.4); Federal cost principles (Section 16.5.6); prohibited types of subagreements (Section 16.8); cost and price considerations (Section 16.5.6); and applicable subagreement provisions (Section 16.10).

16.9

MINORITY, WOMEN'S, SMALL AND LABOR SURPLUS AREA BUSINESSES

The Federal government has identified four groups for special consideration where Federal funds are involved

(40 CFR 33.005).

- o Minority business enterprises.
- o Women's business enterprises.
- o Small businesses.
- o Labor surplus area businesses.

Each of these types of businesses should be afforded an opportunity to

compete for the work you will undertake and you and your contractors have to fulfill specific responsibilities.

EPA has established a policy that a fair share of EPA-financed work should go to small, women, and minority businesses. EPA has developed a Central Resource Directory identifying qualified small, minority, and women's business firms. A fair share is defined as a reasonable commitment of subagreement funds commensurate with the total project funding, local demographic factors, and the availability of minority and women's businesses. In those cases where there is a State or local executive directive, ordinance, or statute prescribing goals for minority and women's business enterprise participation, those goals will constitute the fair share.

Other Federal agencies, namely, the Small Business Administration and the Minority Business Development Agency of the Department of Commerce have established lists of qualified small or minority firms. In addition, other trade or professional associations, such as the American Consulting Engineers Council or Associated General Contractors, also have compiled lists of small and disadvantaged firms. Each of these agencies will provide assistance to you as necessary.

You must take affirmative steps to assure that these businesses are used when possible. Affirmative steps include the following:

- o Including qualified small, minority and women's businesses on solicitation lists;
- o Assuring that these businesses are solicited whenever they are potential sources;

o Dividing total requirements, when economically feasible, into small tasks or quantities to permit maximum participation of these businesses;

o Establishing delivery schedules, where the work permits, which will encourage these businesses to participate;

o Using the services of the Federal agencies cited above;

o Requiring your contractors, if they award subcontracts, to comply with the affirmative steps above.

16.10 SUBAGREEMENT CLAUSES

Subagreements awarded under a grant-assisted project must comply with the provisions of "Subpart F - Subagreement Provisions" which is a part of 40 CFR Part 33. These provisions describe the minimum content of each subagreement. Nothing, however, in these provisions or clauses prohibits you from requiring more assurances, guarantees or indemnity or other contractual requirements in the subagreement.

The subagreement provisions address the following:

o Minimum provisions defining a sound and complete agreement;

o Labor standard provisions which are to be incorporated into construction subagreements by using EPA Form 5720-4 "Labor Standards Provisions for Federally Assisted Construction Contracts" (includes items such as minimum wage, work hours and safety, anti-kickback, nondiscrimination, etc.);

o Nondiscrimination (Civil Rights Act of 1964, handicap, age, sex);

o Patents, data and copyrights clause;

o Violating facilities clause which prohibits use of firms included on EPA's List of Violating Facilities (air or water pollution, etc.);

o Energy efficiency clause which requires compliance with a State's energy conservation plan.

In addition, each subagreement is to include 14 specific clauses (select only those applicable to a particular subagreement), or their equivalent, which address items such as change orders, differing site conditions, suspension of work, termination, access to records, etc. In the case of these 14 clauses (40 CFR 33.1030), it may be easiest to reproduce them directly from the regulations although this is not required.

The subagreement provisions, including all applicable clauses taken together, are intended only to provide a minimum level of protection to safeguard the reviewing agency's interests and, therefore, alone do not constitute a complete subagreement document. You should consider additional clauses you feel appropriate to define a sound and complete subagreement.

16.11 PROTESTS

Protests of procurement actions may be lodged by construction contractors, A/E firms, equipment suppliers or anyone else with a direct financial interest adversely affected by your procurement action. Protests are filed with you, and it is your

responsibility to resolve the protest in accordance with your procurement system procedures, Federal or State law or local ordinance.

When a protest is received, you may wish to contact your municipal attorney or your A/E as appropriate and arrange a meeting to determine how best to proceed. You may also consider whether it is appropriate to defer the protested procurement action. Document your files carefully and use "certified - return receipt requested" for correspondence concerning the protest.

Protest resolution procedures begin with an initial determination of whether the protest has a basis in fact, i.e., the protestor should state the alleged violation, cite the local, State or Federal law violated, and indicate how the protestor was financially harmed. If the protest appears valid, an investigation is conducted to determine the facts. If the protest is frivolous or without a basis in fact, the protestor is so notified. In addition, most procurement procedures address time limitations or other administrative constraints which, if violated, form a basis for protest denial.

In the simplest case you may be able to dispense with a frivolous protest quickly. More complex cases may involve court action. Therefore, act promptly and with advice from legal counsel.

The EPA procurement regulations only address the administrative process that EPA will use for the rapid resolution of appeals of your protest resolution filed with EPA. Appeals may only be filed with and accepted by EPA when the protestor has exhausted

all administrative remedies with you first. Thereafter, certain limitations (timing, notification, etc.) will determine whether EPA will accept or act on an appeal. If you are aware of an appeal being filed with EPA, you may wish to review the EPA regulations (Subpart G to 40 CFR Part 33) in order to understand the procedures EPA will follow.

One requirement of the EPA protest regulations should be noted however. Upon receipt by EPA of a protest appeal, EPA will promptly notify you and request that you defer award of the subagreement or subitem under protest. If you do not defer award, you bear the risk that the cost of the subagreement or subitem may not be allowable for grant participation if the protest appeal is upheld. If a protestor does not agree to a request from you for a reasonable extension of the bid or bid bond period during this time, either you or EPA can summarily dismiss the protest or appeal.

INDEX TO FACILITIES PLANNING PORTION OF CONSTRUCTION GRANTS 1984

Key

- o "6.1"; e.g.; refers to Section 6.1 of Construction Grants 1984.
- o "35.2005", e.g., refers to the Construction Grants Regulations in Title 40, Part 35, Subpart I of the Code of Federal Regulations.
- o "Appx.A(b)B", e.g., refers to Appendix A, Section B of Title 40, Part 35, Subpart I
- o "Appx. A" refers to Appendix A of Construction Grants 1984.
- o "Part 25", e.g., refers to Part 25 of Title 40 of the Code of Federal Regulations.
- o "(CWA 303(e))", e.g., refers to the Clean Water Act, section 303 (e).
- o "41 FR 6190", e.g., refers to volume 41 of the Federal Register, page 6190.
- o "15 WCPD 1353", e.g., refers to volume 15 of the Weekly Compilation of Presidential Documents, page 1353.
- o an underlined reference includes a definition or principal discussion.

A/E [architect/engineer]: introduction, 11.0, 11.1.14, 11.2.1, 11.3, 12.1.3, 13.4, 14.2, 14.3.1, 14.3.2, 15.4.1, 16.4.2, 16.4.3, 16.5, 16.5.4, 16.5.5, 16.5.6!, 35.2005(b)(6)!

A-95: [see intergovernmental coordination]

abandonment: 6.1, 7.3.1, Appx. D!, 35.2214, Appx. A(b).H.2.e!
 access, for operation, etc: 6.7.2, 11.1.20, 12.5, 13.2!, 35.2110!
 accountant: introduction
 additional capacity (also see capacity): 7.2
 additions (see expansion): 6.0, 14.6, 15.1!, Appx.A(b)H!
 ad valorem taxes: 12.2.2, 12.2.3
 advanced treatment, (AT): 4.2, 5.3, 6.0, 6.7.2, 9.2.1, 13.2, Appx. A!, 35.2101!
 aesthetics: 3.2.11, 3.2.12!, Appx.A(b)B!
 ACHP (Advisory Council on Historic Preservation): 3.2.2
 ADBF (Average Daily Base Flow): (see base flow)
 agricultural land, important farmland: 3.2.4, 3.2.13!, 35.2116, Appx.A(b)H.2.k!
 air quality: 3.2.9, 3.2.13,
 airports: 3.2.7
 AJE: (see alternate justifiable expenditure)
 alignments: (see sewer collection systems)
 allotments: 13.5, 14.1.1, 15.4.3!, 35.2010!
 allowable costs (also see categories, eligible): (see specific key word),
 introduction, 6.0, 14.1, 14.3.2, 15.0, 15.4.3!, 35.2250, Appx.A!
 allowability determination: 14.9.4
 allowance: introduction, 1.0, 13.1, 13.2, 13.5, 15.4 et seq.!, 35.2020(e),
 35.2025, Appx.A(b)A.2!
 alternate justifiable expenditure (AJE): 7.1.3, Appx. O!, Appx.A (b)H.1.f!
 alternative, feasible: 6.0, 7.0, 7.3.1!, 35.2030(e)!
 alternative, no action: 3.2.1, 5.6, 7.10!, 6.506!
 alternative, principal: 3.1, 3.2.11, 6.0, 7.0, 7.5, 7.10
 alternative, proposed/preferred: 3.1, 6.0!, 35.2030(b)!
 alternative, selected: 3.2.1, 3.2.11, 8.0!, 35.2030(a)(1) & (b)(8)!
 alternative systems: (see innovative and alternative)
 amend facilities plan: (see facilities plan and environmental analysis
 revisions)
 amendments (to CWA, 1981): 1.0, 13.5, 14.6, 16.0, Appx. L
 annexation: 6.2
 applicant, eligible: 2.1, 4.0!, 35.2005(b)(27), 35.2101!

application: 8.5.1, 13 et seq., 15.4, 15.4.1, 16.1!, 35.2040, 35.2042, 35.2113!
appraisals: 8.6.1!, Appx.A(b)D.2!
aquifer: (see groundwater)
archeological: (see historical)
assurances: 11.1.21, 12.3, 13.1.2, 13.4, 14.6.1, 16.10
audit: 11.1.14, 14.2, 14.3, 15.0, 15.4, 15.6 et seq., 16.2, 14.9.3, 15.6.2
authorized representative:
average daily base flow (ADBF): 5.5.2
award of grant: 3.2.12, 7.2, 9.2.2, 12.4, 13.0, 13.2, 13.6, 15.4!, 35.2042!
AT: (see advanced treatment)

base flow: 5.5.2, 5.4!, 35.2005(b) (28)!
basin plan: (CWA (303(e))
before and after studies: 4.3, Appx. C
best management practices (BMP): 4.0
best practicable waste treatment technology (BPWTT): 6.7, 6.8!, 35.2005(b)(7)!
biddability:
bidding: 11.2, 11.2.5, 11.3, 13.0, 13.1, 15.3.1, 16.4, 16.4.1, 16.4.2, 16.4.3,
16.8 bidding practice: 11.2.1, 16.3, 16.4 et seq.
bid documents:
bid evaluation: 16.4, 16.4.3
bid guarantee: 11.2.2
bids (solicitation for): 11.1.14, 11.2.1, 11.2.3, 13.3, 13.5, 14.1, 14.9.2,
15.6, 16.2, 16.3, 16.4, 16.4.1, 16.4.2, 16.4.3
biological treatment: 6.7!, 35.2005(b)(14)!
bonding (performance):
bonds: 3.1, 7.1.1, 7.3.1, 8.5, 11.2.2, 12.2, 14.6.1, 14.6.4, 16.4.3
BPWTT: (see best practicable wastewater treatment technology)
brand name: 11.1.14
buffer zone: 3.2.12, 8.6.4!, Appx.A(b)B & C!
Buy American: 11.2.4
bypassing: 11.1.9, 11.1.20, 14.3.1

capacity, additional/excess/reserve: 5.2, 5.5, 6.1, 7.2, 8.6.1, 13.2!, 6.506, 35.2030(b)(3)(ii), 35.2123!
capital financing plan: 7.4!, 35.2030(b)(8)(iii), 35.2140(b)!
categorical exclusion: 3.2, 9.2.2, 13.2!, 6.507, 35.2030(c), 35.2113!
categories, eligible: 35.2015(b)(2)
certification, state: 9.2!, 35.2042(b), 35.2050!
change order: (see facilities plan revision) 14.3.1, 14.3.2, 16.10, Appx. I
change orders (bilateral/unilateral): 14.2, 14.3, 14.3.1, 14.9, 14.9.1, 14.9.2, 14.9.3, 14.9.4, 14.9.5, 16.0
changes to project: (see facilities plan revision)
charges to customers: 8.2!, 35.2030(b)(8)!
checklist: introduction, 9.1
chemical treatment: 6.7!, 35.2005(b)(14)!
chlorination: 11.1.5, 11.1.6, 12.4.7
civil rights: 8.5.2
claims: 8.6.1, 14.3.1, 14.2, 14.3.2, 14.9.1, 14.9.2, 14.9.3, 15.2, 15.4.3
Clean Water Act: introduction!, 6.8, 11.1.3, 11.2.4, 13.2, 15.2!, 33 U.S.C. 1251 et seq. as amended!
cluster: 6.3, 7.3.1, 12.5!, 35.2005(b)(18), Appx.A(b)C!
coastal: 3.2.3, 3.2.5
coast guard: 11.1.6
collection systems: 3.2.13, 6.2, 6.3, 6.4, 6.5, 7.3.1, 13.2!, 35.2005(b)(10), 35.2032(c), 35.2034, 35.2116!
combined sewer overflows (CSO): 6.7, 6.8, 7.1.3, appx. P!, 35.2005 (b)(11), 35.2015(b), 35.2024!
competitive negotiation: 16.3, 16.5
complete waste treatment system: 1.2, 4.0!, 35.2005(b)(12), 35.2030(b)!
compliance: 8.5, 8.5.4, 14.6!, 35.2040!
community: 6.3
condemnation: 8.6.1
conference, preapplication:
conference, preconstruction: 14.2
conference, predesign: 10.0, 11.1.5
conference, preplanning: 2.0, 3.2

conflict of interest: 16.5.3, 16.5.5
connection: 6.4!, 35.2116!
constructability: 11.3
construction acceleration:
construction contingency: 14.1
construction contractor: 7.2, 14.9, 14.9.2, 14.9.3, 16.0
construction drawings and specifications: 11.1.14, 11.1.16, 11.1.19, 11.2.1, 11.3, 13.1, 14.3.1, 14.3.2, 16.4.1
construction incentive program:
construction insurance: 11.2.2
construction management: 14.3.1, 14.9.3
construction schedule: 11.1.16†
constructive change:
contingency plans: 11.1.2
continuing A/E services: 14.2
contracts: (see procurement) 11.2.3, 14.0; 14.1.1, 14.6.1, 14.9.1, 14.9.2, 14.9.3, 16.10
contracts, types of: 11.1.22, 11.2.1, 11.2.2
conventional technology: 6.7, 6.7.1, 12.6
copeland Anti-Kickback Act:
Corps of Engineers: 3.2.3, 11.3, 14.3.2
cost accounting system: 8.5.1
cost allocation: 8.5.1!, 35.2107!
cost effectiveness: 1.1, 5.4, 5.5, 5.5.2, 5.5.3, 6.0, 6.7.1, 7.0
et seq., 8.t.w, 8.6.3, 14.3.1!, 35.2030(a)&(b)(3)!
cost estimates: 3.1, 6.7.3, 6.11, 7.0, 7.1, 7.3.1, 8.1, 8.2, 8.6.1!,
35.2030(b)(3)(viii) & (b)(8)!
cost curves: 7.2
cost opportunity: 7.1
costs, annual: 7.1, 12.4.3!, 35.2030(b)(3)(viii)!
costs, capital/direct/monetary/savings: 7.1, 11.1.14, 16.5.6, 16.8!,
35.2030(c)!
CWA: (see Clean Water Act)

Davis Bacon Act: 11.2.1
 debarment: 13.2, 16.8
 deed: 6.7.2
 delegation: introduction, 35.2000(c):
 demographic projections: (see population)
 Department of Housing and Urban Development (HUD):
 Department of Labor (DOL): 14.2
 Department of Transportation (DOT) regulations:
 depreciation: 7.1
 design life: 1.1, 7.1, 8.5.3, 8.6.3!, 35.2005(36), (48)&(50), 35.
 2030(a)(1), (b)(3) & (6)(8)(iii), 35.2214(a), A.b.D.d(2)!
 design of selected plan: 8.1, 11.1!, 35.2030(b)(8)(i)!
 differing site conditions clause: 14.9.2
 direct costs: (see costs, direct)
 direct impacts: (see impacts)
 discharge point: 5.3, 6.0, 6.2
 discount rate: 7.1!, 35.2030(b)(3)!
 disinfection: 8.1, 11.1.5, 11.1.6
 disposal of residuals: (see residuals, disposal)
 domestic wastewater baseflow: 5.4!, 35.2005(b)(28)!
 dredge and fill permits: 3.2.3
 drinking water: (see groundwater)

 easement: 6.7.2, 7.1.2, 8.6.1, 8.6.3
 effluent discharge limitations (also see BPWTT): 4.2
 EID: (see environmental information document)
 EIS: (see environmental impact statement)
 eligible project: (see categories, eligible)
 eligible costs: (see allowable costs)
 emergency operating program: 8.5.3, !35.2106!
 emergency response (program): 11.1.6, 12.4.4
 endangered species: 3.2.8
 enforceable requirements of CWA (also see BPWTT): 35.2005(b)(15)
 energy: 3.2.13, 5.5.3, 6.7, 6.7.3, 6.11, 7.0, 7.1.2, 7.3.1, 7.7, 8.3, 9.1,
 16.10!, 35.2030(b)(3)(vi)!

environmental analysis revision (see also facilities plan revision): 3.2.1!,
6.502(a)(2)!

environmental benefit: 3.2, 6.7.3

environmental description and analysis: 3.2.1, 7.5, 8.4

environmental impact statement (EIS): 3.2, 3.2.1, 3.2.13, 9.2.2, 11.1.17, 13.2!,
6.509, 35.2030(c), 35.2113!

environmental information document (EID): 3.2.1, 11.1.16, 13.2!, 6.507,
35.2030(c), 35.2113!

environmental review: 3.1, 3.2, 7.5, 9.2.2, 10.0, 13.2, 15.4.1!,
35.2030(b)(6) & (c), 35.2113, 35.2123!

environmentally sensitive land: 3.2.1, 3.2.3, 5.5.1, 6.4, 6.6!, Appx.A(b)H.2.k!

Equal Employment Opportunity (EEO): 14.2

equivalent uniform annual costs: 7.1!, 35.2030(b)(3)!

erosion and sediment control: 3.2.10, 11.1.16, 14.3.2

estuaries: 3.2.10

evaluation of proposals:

existing environment: 5.1

existing facilities: 5.2, 6.0, 8.6, 8.6.1, 15.1!, Appx.A(b)D.1(e)!,

expansion: 6.0, 7.4, 8.5.3, 8.6.1, 15.1!, 35.2030(b)(8)(iii)!

explosive gases: 11.1.2

facilities plan completion: 1.2, 13.0!, 6.503, 35.2030(a)(2)!

facilities plan content: 1.2, 2.3, 7.3!, 35.2030(b), 35.2040!

facilities plan review and approval: 9.0 et seq.!, 35.2030(a)(2)& (c)!

facilities plan revision (also see environmental analysis revision): 9.2.2,
14.3.1!, 6.502(a)(2), 35.2204(b)(4)!

fact sheet: 3.1

facultative ponds: 7.3.1!, 35.2030(a)(1)!

Farmers Home Administration (FmHA): 2.0, 7.3, 9.0, 13.1.2, Appx. F

farmland: (see agricultural land)

feasible alternatives: (see alternatives, feasible)

Federal Emergency Management Agency (FEMA)

federal facilities: 6.9, 13.2!, 35.2127, Appx.A(b)F, CWA 313!

federal share: introduction, 6.7, 13.5, 15.4!, 35.2030(b)(8)(ii), 35.2152!

fee simple: 8.6.1

field testing: 6.7, 10.0, 10.1!, 35.2005(b)(17), 35.2040(e), 35.2118, 35.2211, 35.2262!

Financial capability: 1.1, 3.1, 5.4, 6.0, 6.7.2, 7.0, 7.1, 7.2, 7.3, 7.3.1, 7.4, 7.8, 8.5.4, 12.7, 13.2, Appx. K1, 35.2030(a)&(b)†(8), 35.2104, 35.2123, 35.2140(d)!

finding of no significant impact (FNSI): 3.2, 9.2.2, 13.2!, 6.506, 35.2113!

fiscal year: 7.1

fish: 3.2.7, 11.1.14

flood: 3.2.3, 3.2.12, 11.2.2!, Appx.A to Part 6!

flows: 5.2, 5.5.2, 11.1.18!, 35.2030(b)(1)& (3)!

flow reduction: 5.5.2, 5.5.3!, 9.1, 35.2030(b)(3)(i)!

FNSI (see finding of no significant impact):

force account: 9.1, 14.3, 15.3, et. seq.

formal advertising: 16.3, 16.4

forms:

fuel cost escalation factors: 7.1.2

funding: 6.8, 7.1.3, 7.3.1, 8.6.1, 8.6.4, 9.0

future growth: (see capacity)

gallons per capita per day (gpcd): 5.4

generic facilities plan: 2.0, 6.0

governor's discretion: 35.2015(b)(2)(iii)

grandfathering (see also phase/segment and capacity reserve): 13.5!, 35.2152!!

grant amendment: 14.3.1, 14.1.2, 14.9.1

grant application: (see application)

grant conditions: 3.2.1, 3.2.12, 6.6, 7.2, 15.4.3!, 35.2123(d)(6), 35.2200--2218!

grant increase/decrease: 14.1, 14.1.2, 14.1.1, et seq., 14.3.1, 14.9.4, 15.5, 16.4.3

grantee responsibilities: 35.2214!

groundwater: 3.2.10, 3.2.13, 6.7, 6.7.2, 11.1.14!, 35.2030(b)(2)&(b) (7)!

growth, allowable: (see capacity)

guidance: 35.2000(e)

hazardous waste: 6.7.1, 11.1.7

hearings: (see public hearings)

historical: 3.2.2, 3.2.12, 3.2.13, 14.3.1, 3.2.11

Housing and Urban Development(HUD): 7.3

I&A: (see innovative and alternative)

I/I: (see infiltration/inflow)

implementation: 1.1, 7.8, 8.5!, 35.2030(a) & (b)(8)(v), 35.2104, 35.2107!

impacts, indirect/indirect: 3.2.11, 6.10, 7.2!, 6.507, 35.2123(d), Appx.A(b)B!

indirect costs: 11.1.14, 16.5.6, 16.8

individual systems: 6.7.2, 13.2!, 35.2005(b)(18), 35.2034, 35.2110!

industrial (also see pretreatment): 5.2, 5.5, 5.5.2, 6.2, 6.7.1, 6.7.3, 6.8, 6.9, 12.2, 13.2!, 35.2005(b)(19), 35.2030(b)(3)(ii), 35.2125, Appx.A(b)F!

infiltration/inflow (I/I): 5.4, 5.5.2, 10.0, 11.1.18, 11.1.19, 11.3, 12.2.3, 13.2!, 35.2005(b)(16),(20),(21),(28)&(29), 35.2030(b)(4), 35.2120, 35.2130, 35.2140(e), Appx A(b)G!

inflation: 7.1

innovative and alternative technology (I&A): 4.1, 6.5, 6.7, 6.7.2, 6.7.3, 12.6, 13.5, 14.6, 15.1, 15.2!, 35.2005(b)(4)&(23), 35.2032, 35.2152(b), Appx.A(b)C!

innovative and alternative cost-effectiveness preference: 6.5, 6.7, 6.7.4!, 35.2032(b)!

inspection: 8.5.3, 11.1.6, 12.5, 14.3, 14.3.1, 14.9.2, 14.9.3

inspection and maintenance program: 6.7.2, 8.5.3!, 35.2034 (b)(5)!

institutional capability: 1.1!, 35.2030(b)(8)(v), 35.2104, 35.2030(a)!

insurance flood: 3.2.3, 11.2.2, 14.3.2

interceptors: 5.5, 6.10, 13.5!, 35.2005(b)(24), 35.2123, 35.2116!

intergovernmental coordination: 2.3, 9.0, 9.1, 13.1.1!, 47

FR 30959, 48 FR 15587, Part 29!

interim facilities: 6.10, 7.1

interest during construction: 7.1

interest rate: (see discount rate)

intermittent sand filters (ISF): 6.7.2

intermunicipal agreements: 2.1, 6.2, 7.8, 8.5.1, 13.2!, 35.2030(b) (8)(v), 35.2107!

joint EIS/EID process: 3.2, 3.2.13, 9.2.2

jurisdiction: 7.4, 8.5!, 35.2030(b)(8)(iii), 35.2104 (b)!

kjeldahl total nitrogen: (organic nitrogen fraction of wastewater plus ammonia nitrogen)

laboratory: 8.5.3, 11.1.12, 12.4.2, 13.2, 14.3.2!, 35.2106!

labor surplus area businesses: 16.8

land acquisition: 8.6 et seq., 10.0, 13.1, 13.1.2, 15.4.1, Appx. G!, 35.2040(b)(8), 35.2118, 35.2210, 35.2260, 35.2300(d), Appx.A(b)D!

land application: 6.11, 7.3.1, 8.6.4!, 35.2005(b)(7)!

land escalation factor: 7.1.2

land treatment: 4.2, 5.3, 6.0, 6.7.2, 11.1.15

land use: 3.2.13, 5.5.1, 6.10

lead agency: 6.2

lease: 8.3, 8.6.1, 8.6.2, 8.6.3

legal capability: 1.1!, 35.2030(a), 35.2104!

letters of intent: 5.5.2!, 6.2, 35.2030(b)(3)(ii)!

life cycle costs: 6.7.3!, 35.2005(b)(23)!

list of violating facilities: 16.10

local codes: 6.0

local share (funding): 7.3, 7.9, 10.0, 12.7, 13.1.2!, 13.5, 35.2030(b)(8)(ii)!

maintenance requirements: (see operation and maintenance)

management capability: 1.1, 2.1, 6.7.2, 7.3.1!, 35.2030(a)&(b)(8)(v), 35.2030(a), 35.2034(b)(5), 35.2104!

marine bay or estuary (also see CSO): 6.8, Appx. P!, 35.2005(b)(26), 35.2024(b), 35.2040(f)!

marine discharge: 6.8, 13.2!, 35.2112, 35.2005(b)(7)!

Marine Protection Research and Sanctuaries Act: 6.7.1

marine waiver:

MBE: (see minority business enterprises)

meetings: (see public hearings/meetings)

mercury: 11.1.3

mgd: (million gallons per day)

midcourse review: 3.1, 7.10

minority business enterprise (MBE): 2.4, 11.1.14, 11.2.7, 14.2, 16.4.3, 16.9

mitigative measures: 3.2, 3.2.1, 3.2.12, 6.6, 11.1 16, 11.1.77!, 6,507, 6.510,
Appx.A(b)B!

modification or replacement (M/R) grant: (see replacement): 15.2

monetary costs: (see costs, monetary)

monitor: 3.2.10, 8.5.4!, Appx.A(b)B, 35.2110!

multiple purpose projects (also see AJE): 6.8, 6.11, 7.1.3

National Environmental Policy Act (NEPA), (also see environmental): 2.3, 3.2,
3.2.2, 6.7.1, 9.2.2!, 35.2123!

National Pollutant Discharge Elimination System (NPDES): 4.2, 5.3, 6.6, 6.7,
6.9, 8.5.4, 10.1, 11.1 et seq., 12.3, 14.3.1, 14.3.2, 6.8, 7.2, 14.4!, 35.2030(b)
need: 3.2.1, 5.0, 5.1, 5.2, 5.5, 5.5.1, 5.5.2, 6.8, 7.2, 7.3.1!, 35.
2030(b)(3)(ii), 35.2123, 35.2214!

NEPA: (see National Environmental Policy Act)

no action alternative: (see alternative, no action)

no cost: 8.6.1, 8.6.2

no discharge: 6.7.2

noise: 3.2.11, 3.2.13

notice, public: 3.1

noncompetitive negotiation: 11.1.14, 16.3, 16.6

noncompetitive procurement: (see sole source)

nonmonetary factors: 1.1!, 35.2030(a)!

nonresidential wastes (industrial): 8.5.4

nonrestrictive specifications: 11.1.14

NPDES: (see National Pollutant Discharge Elimination System)

ocean discharge: (see marine discharge)

onsite review: 14.3.1, 14.3.2, 14.4, 15.4.3, 15.6.2

onsite review (final):

onsite systems (also see individual systems): 5.2, 6.0, 6.3, 7.3.1, 12.5!,
35.2030(a)(1)!

open space: (see recreation)
 operability assessment: 7.3.1
 operation and maintenance (O&M): 6.1, 6.2, 6.7, 7.0, 7.1, 7.3, 7.3.1, 8.5.3, 11.1.20, 12.2 et seq., 12.5, 13.2, 14.3.2, 15.2!, 35.2005(b) (31), 35.2106, 35.2206!
 operation & maintenance manual: 12.4.6, 12.4.7, 13.2
 Operational Safety and Health Administration (OSHA):
 option: 8.6.1!, 35.2118!
 optional A/E services:
 OSHA: 11.1.6, 11.1.8, 14.2
 overland flow land treatment: 7.3.1!, 35.2030(a)(1)!
 overruns: 11.2.1, 14.9.2
 oxidation pond/ditch: 5.3, 7.3.1!, 35.2030(a)(1)!

 payments: 14.4, 15.4 et seq.
 payment schedule: 13.2, 13.3, 15.4 et seq.
 PE: (see residential population equivalent)
 peak flows: 6.10!, 35.2005(b)(29)!
 performance standards: 14.6, 15.1, 15.2
 permits (also see enforceable requirements): 3.2.3, 10.0, 11.1.7
 phased/segmented construction: introduction, 1.2, 4.1, 5.5, 6.8, 9.2.2, 13.2, 13.5, 14.6!, 6.503, 6.514, 35.2005(b)(49), 35.2024(b)(2) (ii), 35.2108, 35.2109, 35.2152, 35.2206(c)(1)!
 piggyback EIS: (see joint EIS/EID)
 pilot scale:
 planning area: 2.1, 4.0, 5.0, 6.3!, 35.2034(b)(3)!
 planning period: 5.5, 6.10, 7.1, 7.6!, 35.2030(b)(3), CWA 208(b)(2) (A)!
 planning process: 1.1, 3.0, 5.5
 plan of operation: 8.5.3, 10.0, 12.4 et seq., 13.2, 4.4!, 35.2106!
 plan of study: 2.2
 plans and specifications (P&S): 6.8, 14.6.1, 14.9.2, 14.9.3
 ponds (also see facultative ponds): 8.6.4
 population: 4.0, 5.5.1, 5.5.2, 7.3.1!, 35.2030(b)(3)!
 population density: 6.4

POTW: (publicly owned treatment works)
 preapplication conference: (see conference, preapplication)
 preapplication treatment: 6.7.2!, Appx.A(b)D!
 preaward: 8.6.1, 10.1, 13.1.2, 13.2, 15.4.1, 15.6, 16.1!, 35.2030(a)
 (2), 35.2118!
 preconstruction conference: 14.2
 predesign conference: 10.0, 10.1, 11.1.5
 preferred alternative: (see alternative, preferred)
 preliminary design: 8.1!, 35.2030(b)(8)(1)!
 preplanning conference: (see conference, preplanning)
 prequalified list: 16.5, 16.5.4
 present worth: 7, 7.1, Appx. E!, 35.2030(b)(3)!
 pretreatment: 5.2, 5.5.2, 6.1, 6.7.1, 6.7.3, 6.9, 8.5.4, 10.0, 11.1.1, 11.1.7,
 12.3, 14.3.2!, Appx.A(b)F!
 primary impact: (see impact direct)
 prime contractor:
 principal alternative: (see alternative, principal)
 principal purpose: 6.9!, 35.2125!
 prior approval: 13.2, 14.9.1, 14.9.2, 14.9.3, 14.9.4, 15.4.1
 prior grant: 1.0!, Preamble!
 priority list: 4.1, 6.7, 13.2!, 35.2015(c), 35.2103!,
 priority water quality areas: 4.1!, 35.2005(b)(34), 35.2015(b)!
 privately owned systems (also see individual systems): 6.5, 6.7, 6.7.2, 13.2!,
 35.2032(b)(1), 35.2034!
 procurement (also see contracts): 2.4, 8.5.1, 11.2, 11.1.14, 11.1.22, 11.2.1,
 11.2.7, 12.4, 11.2.5, 11.3, 13.1.2, 13.2, 13.4, 14.0, 14.3.2, 14.6.1, 14.6.4,
 14.9.1, 14.9.3, 15.0 Part IV, 15.3.1, 15.4.1, 15.6, 16.0-16.5.1, 16.5.5,
 16.5.6-16.7, 16.11, 15.4, 16 et seq., Appx. N!, 33.715!
 procurement certification:
 profit: 11.1.14, 14.9.3, 16.5.6, 16.8
 project performance: 14.6, 14.6.1, 14.6.3, 14.9.1, 15.2, 15.4.3
 project reviewer: introduction, 6.0, 10.1, 13.6, 15.4
 proposed alternative: (see alternative, proposed)

protest appeal: 16.11

public hearings/meeting: 3.1, 3.2, 12.2

public participation: 3.1, 3.2.1, 3.2.13, 5.5.3, 6.7.1, 7.3, 7.3.1, 7.10, 7.11, 9.2, 13.1, 13.3!, 6.504, 35.2040(a)(3)!

rapid infiltration land treatment: 6.7.2

rare species: (see endangered species)

RCRA: (see Resource Conservation and Recovery Act)

reconstruction: 7.4!, 35.2030(b)(8)(iii)! 15.1

records management system: 8.5.1

recreation: 3.2.13, 7.1.3, 7.9, 11.1.14!, 35.2030(b)(5)!

regionalization: 6.2

regulations: (see introduction), 15.6, Appx. M

rehabilitation: 5.4, 5.4.1, 6.3, 6.4, 7.3.1, 8.5.1, 8.6, 8.6.1, 11.1.9 (sewers), 13.2, 14.3.2!, 35.2116, 35.2118(a)(2), 35.2120, Appx.A(b)G!

reliability: 6.7.3, 7.6, 11.1.4, 11.1.14, 12.2

relocation/dislocation: 3.2.11, 3.2.13, 8.6.1!, Appx.A(b)C!

replacement (also see operation and maintenance): 3.2.3, 6.0, 6.3, 6.4, 7.1, 8.5.3, 12.2, 13.2, 14.6, 15.1, 15.2!, 35.2005(b)(36), 35.2116, Appx.A(b)H.2!

request for proposals: 16.5.4

request for qualifications: 16.5.4

reserve capacity: (see capacity, reserve)

residential population equivalent (PE): 5.5.2

residence, principal: 6.7.2!, 35.2005(b)(31), 35.2034(a)&(b), Appx.A(b)C!

residuals disposal: 1.2, 3.2.10, 3.2.13, 5.2, 5.5.2, 6.0, 6.7, 6.7.1, 6.7.2, 6.7.3, 6.11, 7.1, 8.0, 8.5.3, 8.5.4, 8.6.1, 8.6.4, 11.1.7, 11.1.14!, 35.2030(b)(3)(iv), 35.2140, Appx.A(b)D!

Resource Conservation and Recovery Act (RCRA): 6.7.1, 11.1.3, 11.1.7

responsibility: introduction!, 35.2050!

responsiveness summary: 3.1, 7.11

restoration: 8.6.3!, Appx.A(b)C & D!

reuse/recovery/recycle (see also residuals): 6.7.1, 6.7.2, 6.7.3, 6.1 1, 8.5.4!, 35.2030(b)(3)(iv)!

revenue: 6.7, 7.1, 7.1.3, 8.6.4!, 35.2005(b)(7)(ii)(A), 35.2030(b) (3)(v), 35.2140(f)!

risk: 6.7.3, 10.1
 royalties: 11.2.5
 rural communities (also see small community): 6.5, 7.3, 7.3.1, 9.0!,
 35.2020(b)!

 salvage value: 7.1, Appx. E
 SAWS: (see small alternative wastewater systems)
 scenic rivers: 3.2.6
 schedule: 1.0, 3.0, 8.1, 8.5, 8.6.1, 11.2.1, 13.1, 14.2, 14.6!, 5.2005(b)(35),
 35.2030(a)(2)(ii), 35.2212!
 screening of alternatives: 3.1, 6.0, 7.0, 7.3
 scope of environmental review: 2.0, 3.2, 5.0!, 35.2030(c), 35.2113 (c)!
 seasonal population: 5.5.2
 secondary impacts: (see impact, indirect)
 secondary wastewater treatment: 4.2, 5.3, 35.2005(b)(7), Part 133!
 sediment: (see erosion)
 segment: (see phase)
 service agreement: (see intermunicipal agreement)
 service lateral: 5.4.1
 service area: (see jurisdiction)!, 35.2132(d)(5)!
 sewer maintenance program and ordinance: 5.4.1, 8.5.1
 sewer system evaluation: 5.4!, 35.2120, Appx.A(b)G!
 sewer system rehabilitation: 5.4, 6.8, 8.5.1, 14.3.1
 sewer use ordinance: 5.4.1, 8.5.1, 10.0, 11.1.1, 11.1.2, 12.3, 13.2, 14.2,
 14.3.2!, 35.2122, 35.2130, 35.2202, 35.2208, 35.2260, 35.2262!
 shellfish: 3.2.10, 11.1.4, 11.1.14!, 35.2024(b)!
 SHPO (State Historic Preservation Officer): 3.2.2
 shoreline stabilization: 3.2.10
 site availability: 8.2
 SIP (State Air Implementation Plan): 3.2.9
 sludge disposal: (see residuals)
 small alternative wastewater systems (SAWS): 6.7.2, 13.2!, Appx.A(b) C!
 small business enterprise: (see minority business enterprise)
 small commercial establishments: 6.5, 6.7.2, 12.2!, 35.2005(b)(39),
 35.2034(b)(2), Appx.A(b)C!

small community: 6.2, 6.5, 6.7.2, 7.3.1, 9.0!, 35.2005(b)(40), 35.2030(a)(1),
 35.2032(a)(2), Appx.A(b)C!
 small purchases: 16.3, 16.5.5, 16.7
 SMSA (Standard Metropolitan Statistical Area): 5.4
 social impacts: 3.2.11
 soils: 6.3, 11.1.16
 sole source procurement: 11.1.14, 16.3, 16.5.5, 16.6
 Solid Waste Disposal Act (SWDA)
 sources of information: 3.2.1, 5.1
 staged construction: 5.5, 6.1, 6.6, 6.10, 7.4
 start-up costs: 8.5.3!, Appx. A(b)E.2!
 start-up services: 12.4.6
 state planning processes: 4.0 et seq.
 step 1, 2, 3, and 4, (2+3): introduction, 1.0, 3.1, 3.2, 3.2.12, 8.5 .1, 8.6.1,
 10.0, 13.0, 13.1, 13.2, 13.5, 15.4, 16.5.5!, 35.2005(b)(43) -(46), 35.2109,
 35.2202!
 storage: 6.8, 6.10, 8.6.4
 storm sewers: 6.8!, 35.2005(b)(47), Appx.A(b)H.2.!
 stormwater: 3.2.10, 6.7.1!, Appx.A(b)H.2.j!
 subagreements: 13.1.2, 14.6.1, 15.4, 16.1, 16.4.3-16.5.3, 16.5.6, 16.5 6-16.9,
 16.0, 16.2, 16.3, 16.4, 16.4.3, 16.5.2, 16.5.3, 16.5.4, 16.8, 16.10, 16.11!,
 35.2350, Appx.A(b)A!
 sunk costs: 7.1.1
 surface water: 3.2.10, 11.1.14
 suspension: 13.2, 14.9.2, 16.8, 16.10
 suspension of work clause:

 Termination clause:
 threatened species: (see endangered) 305(b) report: 4.0, 4.3
 title (to land): 6.7.2, 8.6.3
 toxic pollutants: 6.7.3, 8.5.4, 12.2!, 35.2130!
 Toxic Substances Control Act (TSCA): 6.7.1, 11.1.3, 11.1.7
 training: 6.7.2, 8.5.3, 12.4.1, 12.4.3, 14.3.2, 14.6!, 35.2040(c),
 35.2106, 35.2152(d), 35.2218(b)(2)!

treatment works: 1.2, 5.2, 11.1.14!, 35.2005(b)(12), (48) & (49)!

trickling filters: 5.3, 7.3.1, 11.1.3!, 35.2030(a)(1)!

two-thirds rule: 6.4, 6.5!, 35.2116!

unallowable costs: (see allowable costs)

underruns: 14.9.2

undeveloped areas: 6.6

uniform lower federal share: introduction, 13.5!, 35.2152(c)!

unilateral change order:

unsewered areas: 6.3, 6.7.2!, 35.2030(a)(1)!

upgrading: 3.2.3, 6.0, 6.1, 6.7.2, 7.0, 7.3.1, 8.5.3, 8.6, 8.6.1!,
35.2030(b)(3)(iii)!

useful life: 7.1, 8.5.3, 8.6.3, 12.2!, 35.2005(36)&(50), A.b.d.b.(2)!

user charges (also see charges to customers): 7.0, 12.2!, 35.2005(b) (51),
35.2104!

user charge system: 3.1, 5.5.3, 6.7, 6.7.2, 7.3, 8.5, 8.5.1, 10.0, 12.2,
et seq., 12.5, 13.2, 14.2, 14.3, 2!, 35.2122, 35.2123(d)(5), 35.2 140, 35.2208,
35.2202, 35.2260, 35.2262!

value engineering (VE): 10.0, 11.3, 12.1 et seq., 13.2!, 35.2005(b)(5 2),
35.2114!

ventilation: 11.1.2, 11.1.6, 11.1.11

visual impacts: (see aesthetics)

voluntary exclusions: 13.2

wasteload allocations (WLAs): 4.0, 4.2, 7.3.1

water quality management (WQM): 2.1, 4.0, 6.9, 7.9, 7.11, 9.0, 13.2 !
35.2023(a)(4), 35.2102!

water quality standards (WQS): 4.0, 4.2, 7.3.1, 11.1.1, 11.1.5, 11.3, 13.2

water supply: (see groundwater)

wet and dry well classifications:

wetlands: 3.2.3, 3.2.13, 11.1.16!, Appx. A to Part 6!

wild and scenic rivers alt:

wildlife: 3.2.7

wild rivers: 3.2.6

Women's Business Enterprise (WBE): 2.4, 11.1.14, 11.2.7, 14.2, 16.4.3, 16.9

WQM: (see water quality management)

zero discharge: (see advanced treatment)

APPENDIX A
ADVANCED TREATMENT

federal register

**Monday
May 21, 1984**

Part II

Environmental Protection Agency

**Policy for Review of Advanced
Treatment Projects; Notice**

ENVIRONMENTAL PROTECTION AGENCY

(W41-FRL 2584-1)

Policy for Review of Advanced Treatment (AT) Projects

AGENCY: Environmental Protection Agency.

ACTION: Notice of program policy and technical procedures for Agency review of advanced treatment projects proposed for funding under the construction grants program.

SUMMARY: This policy supersedes Program Requirements Memorandum (PRM) 79-7, dated March 9, 1979, and interim policies based on the draft revised PRM published for comment on June 20, 1980 (45 FR 41890). Agency policy and technical procedures are set forth to direct Headquarters and Regional (or delegated State) reviews of all wastewater treatment projects designed to meet effluent requirements more stringent than secondary treatment.

SUPPLEMENTARY INFORMATION: This policy establishes nationally consistent procedures for the conduct of advanced treatment (AT) reviews by Environmental Protection Agency (EPA) Headquarters, Regions and delegated States, and improves the technical basis for review of AT projects. Technical procedures for conducting AT reviews are included in an Appendix to the policy.

EPA's intent is to institutionalize the conduct of AT reviews at the lowest feasible level of review and at the earliest feasible time in project development. AT review criteria and technical procedures should be considered in the development and review of water quality standards and in the processes for translating these standards into water quality based effluent limitations for National Pollutant Discharge Elimination System.

To assist States, EPA is now improving its guidance for reviewing water quality standards and for deriving permit effluent limitations based on the standards. After this policy goes into effect, EPA Headquarters will evaluate State and Regional implementation of the policy as a basis for judging the appropriateness of future delegation of AT reviews for projects with incremental costs of more than \$3 million. This evaluation will comprise examining how well States and Regions conduct the required AT reviews for projects with incremental AT costs of \$3 million or less and assessing the quality of the projects with incremental AT

costs over \$3 million submitted for Headquarters review.

The policy requires review of only the larger more expensive land treatment projects by providing that:

EPA Regions should identify proposed projects featuring land treatment, or other innovative/alternative technologies affording wastewater reuse or recycling of pollutants, that result from AT discharge requirements. Where the incremental present worth cost exceeds \$3 million, the project must be reviewed under this policy. For this special case, the incremental present worth cost comprises the total present worth cost of project components beyond preliminary treatment. Where the proposed preliminary treatment exceeds the secondary treatment level, the incremental present worth cost includes the cost of proposed treatment beyond that for achieving secondary treatment.

While this provision may require review of a few more land treatment projects than reviewed under the former Program Requirements Memorandum 79-7 (PRM 79-7), the number of reviewed projects is not expected to exceed ten percent of all proposed land treatment projects resulting from AT effluent limitations. Thus, project reviews will focus only on the larger and more expensive projects. The \$3 million incremental land treatment limit was selected because present worth costs of most of the smaller, less expensive land treatment projects are comparable with costs of new secondary treatment alternatives.

The AT policy and technical procedures being published today incorporate many comments from States, EPA Regions and Headquarters' offices, and other Federal agencies.

This policy is organized as follows:

Statement of Policy
Expiration Date Application
Background
Authority
Application

1. Definition of Advanced Treatment
2. Projects Requiring Reviews
3. Review Exemptions
4. Review Responsibilities
Implementation

1. Previously Reviewed or Exempted Projects
2. Water Quality Standards
3. Wasteload Allocations/Facilities Planning and Design
4. Principles for Review
5. Submittal of Projects for Headquarters Review
6. Review of Draft AT Reports,
7. Disposition of Projects
8. EPA Report to States
9. Agency Overview Procedures

Appendix A. Technical Procedures for Advanced Treatment Project Reviews
Appendix B. Relationship to Previous Policies

Statement of Policy

The Agency will review and fund advanced treatment (AT) projects designed for treatment more stringent than secondary treatment in accordance with the criteria and technical procedures described herein. Pursuant to directives of the Appropriations Conference Committee, grant funds may be used for construction of new facilities providing treatment greater than secondary, as defined by the Agency, only if the incremental cost of the advanced treatment is \$3 million or less, or if the Administrator personally determines that advanced treatment is required and will definitely result in significant water quality and public health improvements. For AT projects with incremental AT costs of \$3 million or less, it is the policy of the Environmental Protection Agency (EPA) that grants funds may be used for construction of AT facilities only if the EPA Regional Administrator, or delegated State, determines that advanced treatment is required and will definitely result in significant water quality and public health improvements. The significance of improvements resulting from and AT project will be assessed in terms of contributions toward restoring designated uses or preventing the impairment of designated uses by the proposed project.

The funding of AT projects reviewed under this policy shall be considered justified when all applicable provisions of 40 CFR Part 35 (including cost-effectiveness) and the following review criteria have been met:

1. Scientific data, information, and analyses document an existing impairment of a designated use or a use impairment that would result without the proposed project.

2. A reasonable relationship has been established scientifically between the impairment of a designated use and pollutant loadings.

3. The additional reduction of pollutant loadings resulting from construction and proper operation of the AT facility will make a substantial contribution toward the restoration of the designated use or will prevent impairment of a designated use by the proposed project.

4. All other point source discharges that contribute pollutants resulting in the use impairment of the affected waterbody are regulated under the National Pollutant Discharge Elimination System (NPDES).

5. Provisions have been made to implement those nonpoint source pollution controls that together with the

proposed AT project are considered necessary for restoring a designated use or preventing the impairment of a designated use, and such provisions are included in certified and approved water quality management plan.

Expiration Date

This policy shall be effective upon its publication date and will remain in effect until rescinded.

Background

This policy supersedes Program Requirements Memorandum (PRM) 79-7, dated March 9, 1979, and interim policies based on the draft PRM published for comment on June 20, 1980 [45 FR 41890]. Agency policy and technical procedures are set forth to direct Headquarters and Regional (or delegated State) reviews of all wastewater treatment projects designed to meet effluent requirements more stringent than secondary treatment. Technical procedures for conducting AT reviews are presented in Appendix A. Appendix B describes the relationship of this policy to previous policies.

The purpose of this policy is to assure that the use of Federal funds and the construction of municipal treatment works required by State adopted and EPA-approved water quality standards will result in the maximum return in public health and water quality improvements. EPA funding decisions based on this policy do not abrogate the right and responsibility of States to adapt and meet water quality standards under provisions of sections 301, 303, 402 and 519 of the Act.

Authority

EPA began reviewing AT projects in accordance with directives from the House and Senate Appropriations Committees. The statutory authority for AT reviews is found in section 101(f) of the Clean Water Act, 33 U.S.C. 1251(f), which requires the Administrator to implement the Clean Water Act by making the "best use of available manpower and funds." This authority was upheld by the United States Court of Appeals for the District of Columbia Circuit in *People of the State of California v. U.S. Environmental Protection Agency, et al.*, 689 F.2d 217 (D.C. Cir. 1982). In that case, the Court rejected a challenge by the State of California to the legality of AT reviews, holding that such reviews were authorized under section 101(f).

In reports accompanying Appropriations Acts for fiscal year (FY) 1979 and subsequent fiscal years, Congress has instructed EPA to perform AT reviews. Specifically, in action

approving the FY 79 appropriation for the construction grants program, the House and Senate Appropriations Conference Committee agree "that grant funds may be used for construction of new facilities providing treatment greater than secondary only if the incremental cost of the advanced treatment is \$1 million or less, or if the Administrator personally determines that advanced treatment is required and will definitely result in significant water quality and public health improvements."

In implementing that action, EPA issued PRM 79-7 on March 9, 1979, effective on that date. All AT projects proposed to receive either a step 2 or Step 3 grant in FY 79 were required to undergo an AT review unless the AT project, or portion thereof, had already been funded by a Step 3 grant before issuance of the Conference Committee directive in October 1978. If the incremental cost for the AT portion of the project exceeded \$1 million, the review was conducted by EPA Headquarters and signed by the Administrator. If the AT incremental cost of the project was \$1 million or less, a review was conducted at the Regional level. For FY 80 and subsequent fiscal years, the limit for Headquarters review was raised to \$3 million; however, the Committees directed that all other AT projects be reviewed at the Regional level regardless of costs.

For projects with AT incremental costs over \$3 million, the FY 81 Appropriations Conference Committee Report directed the Agency to continue the AT project reviews, perform the reviews at Headquarters, and cease delegation of data collection and project evaluation to Regions and States. The FY 81 Appropriations Act (Pub L. 96-526) further provided for the continuation of AT project reviews by exempting them from Appropriation Act language which otherwise prohibited retroactive requirements for the construction grants program.

For FY 82 and subsequent fiscal years funding and positions were provided for AT reviews. The FY 84 House Committee Report urged that State and Regional reviews be based on the same set of criteria as Headquarters to avoid potential wasted effort in planning and design of projects that may not be approvable.

Application

1. Definition of Advanced Treatment

The Agency has defined secondary treatment in terms of attaining an average effluent quality for both biochemical oxygen demand, five-day

(BOD₅), and suspended solids (SS) of 30 milligrams per liter (mg/l) in a period of 30 consecutive days, an average effluent quality of 45mg/l for the same pollutants in a period of 7 consecutive days, and 85 percent removal of the same pollutants in a period of 30 consecutive days (40 CFR Part 133). For the purposes of this policy, an AT project shall be defined as any project that: (a) is designed to meet effluent limitations for BOD₅ or SS less than 30 mg/l (30-day average), or (b) is designed to meet effluent limitations for the removal of ammonia, nitrogen, phosphorus, or other pollutants, or (c) is designed to provide stringent disinfection by means of coagulation and filtration facilities.

2. Projects Requiring Reviews

a. Advanced Treatment Projects. Except for certain projects exempted as described below, this policy shall be applied to all AT projects prior to the award of a Step 3 (or Step 2 + 3) construction grant (40 CFR 35.2101). Phased or segmented projects (40 CFR 35.2106) that have received a Step 3 construction grant for a phase or segment with an AT component between October 1, 1978, and the effective date of this policy do not require an additional AT review under this policy.

b. Special Cases. (1) The EPA Regions should identify projects other than AT with long interceptors or outfalls for discharge to distant receiving waters due to blanket AT or blanket zero discharge requirements for nearby waters. Where the total capital cost of such a project exceeds by more than \$3 million the capital cost of providing secondary treatment with discharge to nearby waters, the project must be reviewed under this policy.

(2) EPA Regions should identify proposed projects featuring land treatment, or other innovative/alternative technologies affording wastewater reuse or recycling of pollutants, that result from AT discharge requirements. Where the incremental present worth cost exceeds \$3 million, the project must be reviewed under this policy. For this special case, the incremental present worth cost comprises the total present worth cost of project components beyond preliminary treatment. Where the proposed preliminary treatment exceeds the secondary treatment level, the incremental present worth cost includes the cost of proposed treatment beyond that for achieving secondary treatment.

3. Review Exemptions

a. Secondary Treatment Processes. (1) A project designed to meet State definitions of secondary treatment shall not be subject to review under this policy, if the more stringent level of effluent quality is required by State effluent standards not more stringent than 20/20 mg/l BOD₅/SS, and only secondary treatment technologies are required to achieve those levels.

(2) A project featuring only the addition of commonly used disinfection processes for pathogen inactivation (such as chlorination/dichlorination, and ozonation and ultraviolet radiation) to a secondary treatment facility shall not be subject to review under this policy.

b. Phosphorus Removal. (1) Secondary treatment facilities with phosphorus removal only which are required to meet the existing international agreement for the Great Lakes basin or the Upper Chesapeake Bay policy shall not be subject to review under this policy.

(2) For projects with incremental AT costs of \$3 million or less, the Regional Administrator shall also have the option of exempting from review secondary facilities with phosphorus removal only, where the total phosphorus effluent limitations (as total P) are not less than 1 mg/l. EPA Headquarters will provide an expedited review for such projects with incremental costs over \$3 million.

c. Warm Weather Nitrification. For projects with incremental AT costs of \$3 million or less, the Regional Administrator shall have the option of exempting AT projects from review if such projects provide: (1) Only for warm weather (e.g. 20°C or greater) nitrification designed to achieve effluent limitations requiring not more than 90 percent removal of ammonia on streams with designated fishery uses, and (2) effluent flows are greater than stream flows at critical low flows. EPA Headquarters will provide an expedited review for such projects with incremental costs over \$3 million.

4. Review Responsibilities

The incremental AT cost is defined as the difference in total capital cost between the most cost-effective secondary treatment facility and the proposed treatment alternative. All AT projects with an incremental capital cost for AT over \$3 million, unless exempted, must be approved by the EPA Administrator in order to receive a Step 3 (or Step 2+3) grant.

All AT projects with an incremental capital cost for AT of \$3 million or less, unless exempted, must be approved by the Regional Administrator in order to

receive a Step 3 (or Step 2+3) grant. The Regional Administrator may delegate responsibility for the review and approval of such AT projects, consistent with the requirements and procedures of this policy, to States with 205(g) delegation for the review of facilities plans.

Implementation

The EPA Regions shall advise the States of this policy and the review criteria. The EPA Regions shall identify all projects that require reviews under this policy (see Application section) and also require a Step 3 (or Step 2+3) construction grant award. The Regional Administrator shall assure that such projects receive adequate reviews under this policy prior to the award of a Step 3 (or Step 2+3) construction grant.

1. Previously Reviewed or Exempted Projects

No additional AT reviews will be required under this policy of previously reviewed projects with effluent limitation assessments prepared and approved under PRM 79-7 or interim policies based on the draft revised PRM published June 20, 1980. Likewise, projects previously exempted from AT reviews under the aforementioned policies will not require an AT review under this policy unless the project includes:

- (a) Denitrification; or
- (b) Year round nitrification; or
- (c) A filtration process as an addition to nitrification.

2. Water Quality Standards

The water quality standards, established by the States and approved by EPA, are the basic regulatory mechanism for determining the designated uses to be protected and the water quality levels necessary to protect each body of water. The standards include designated uses and criteria established to protect each use. AT project reviews do not substitute for EPA's required review of water quality standards because the AT reviews are predicated on a different objective, are project-specific, and result in an EPA funding decision. Although the reviews may raise questions about the impact of a State standard on discharges in a segment, a separate State-initiated action is necessary to review and revise the standards. In determining whether a proposed AT project meets the criterion of making a substantial contribution toward restoration of a designated use or prevention of a use impairment that would occur without the project, the AT project review will take into account the State designated use and the chemical,

physical and biological characteristics of the receiving water body in relation to the designated uses.

The principal foci of the AT analyses will be: (1) The methods used to determine the relationship between the pollutant loadings and the established water quality criteria (i.e., wasteload allocations), (2) the adequacy of the data on which judgments were made, (3) other aspects of applying the established water quality standards (i.e. permit averaging periods, mixing zone determinations and seasonal loadings), and (4) the need for proposed AT processes to achieve effluent limitations.

3. Wasteload Allocations/Facilities Planning and Design

The process of establishing or revising effluent limitations for a proposed AT facility includes the performance of wasteload allocations (WLAs) and the establishment of total maximum daily loads (TMDLs) under section 303(d) of the Clean Water Act. Regions and States are strongly encouraged to review the WLAs/TMDLs and proposed effluent limitations affecting AT projects as soon as adequate data are available.

For projects still in planning that appear likely to require a Headquarters AT review, the Regions may submit WLAs and AT effluent limitations to Headquarters for a preliminary review. The results of such review should be taken into consideration in the completion of the facilities plan. This process will expedite further AT review when the proposed project is submitted to Headquarters.

The construction grants regulation (40 CFR 35.2101) requires the completion of AT reviews before the award of Step 3 (or Step 2+3) grant assistance. However, Regions, States, and grantees are encouraged to submit documentation for AT projects immediately following completion of facilities planning and prior to the initiation of work on detailed plans and specifications. Such reviews will be conducted in accordance with this policy.

Generally, AT project reviews will not re-examine the facilities planning or cost-effectiveness analysis that lead to the selection of the proposed AT alternative. AT project reviews may, however, comment upon and make recommendations as to the suitability of AT processes in meeting effluent limitations found to be justified.

4. Principles for Review

The same review criteria will be used in reviewing all AT projects, regardless of incremental costs, although the

appropriate level of effort required to satisfy the review criteria will depend on the nature of the AT project and, in particular, the magnitude of the AT costs involved. Technical procedures are being issued concurrently with this policy (see Appendix A). These procedures, as applicable, will be followed for AT reviews conducted by EPA Headquarters under this policy and should be used for reviews of projects of \$3 million or less to ensure consistency of reviews. Supplemental technical guidance will be issued from time to time by the Office of Water. In the review of projects involving the critical habitat of an endangered or threatened species, the requirements of the Endangered Species Act will be met in consultation with the Fish and Wildlife Service or the National Marine Fisheries Service, as appropriate.

5. Submittal of Projects for Headquarters Review

For AT projects with incremental AT costs greater than \$3 million, the Regional Office shall submit documentation for Headquarters review, including two copies of the following:

(a) A facilities plan (draft or final) that provides documentation on the alternatives considered, and the Region's (or State's) review comments on the facilities plan;

(b) An AT Project Checklist completed by the Region;

(c) The Region's (or State's) evaluation of the restoration or prevention of impairment of designated uses, and the water quality and public health improvements that will result from AT, based upon data submitted concerning the project; and

(d) The major documents summarizing the water quality standards and the establishment of effluent limitations for the project, including an evaluation of seasonally applied standards and limitations.

This information should be submitted to: Director, Facility Requirements Division (WH-595), U.S. EPA, 401 M Street SW., Washington, DC 20460.

A draft report will be produced for comment within 6 weeks after EPA Headquarters receives acceptable AT project documentation submitted for a funding decision by the Administrator.

6. Review of Draft AT Reports

As part of EPA's AT project review, a draft report will be prepared for each project and submitted to the Regional Office (when Headquarters prepares the report), the State and grantee for review and comment.

7. Disposition of Projects Following AT Review

a. *Justified AT Processes.* If, as a result of EPA's AT review, EPA determines that AT processes are justified in accordance with this policy, these processes can be funded subject to all applicable provisions of 40 CFR Part 35.

b. *Unjustified AT Processes.* If, as a result of EPA's AT project review, EPA determines that certain AT processes are not justified, then grant awards for the construction of the unjustified AT processes will be deferred.

Construction grant awards can be made for the construction of secondary treatment and any justified AT components, provided that the grantees acknowledge that the Federal government is under no obligation to award grants for the construction of the unjustified AT components in the future.

Based on State policy or regulation, the State may require the grantee to construct the deferred AT components. (For example, States may require this action because of a desire for a greater margin of safety in areas of rapid growth, or where treated water is needed for uses such as aquifer recharge or reclamation.) In such cases, however, EPA will approve grant funding only for secondary treatment and justified AT components, and will not fund the additional deferred AT components.

Where the funding for certain AT components is deferred due to uncertainty over water quality data, modeling or pollutant loadings and the State wishes to resubmit these processes for funding, a water quality and biological monitoring program should be implemented to establish scientifically the relationship between the control of pollutants and the attainment of designated uses, and determine whether the AT components will result in significant water quality and public health improvements.

c. *Relationship to NPDES Permits.* Deferral of funding for AT facilities under the provisions of this policy does not relieve the NPDES permit holder from the enforceable provisions of the Clean Water Act, as amended. In cases where AT processes have been deferred, the Agency will provide its technical findings for consideration by the NPDES permitting authority in reviewing and revising the effluent limitations, as deemed appropriate.

8. EPA Report to States Following AT Review

Following completion of the AT project review, the Agency will provide

to the State a report that includes the following:

(a) A summary statement of the information and analyses used in the AT project review which describes how the proposed project relates to the justification criteria for AT processes;

(b) A summary of the conclusions and funding decisions reached;

(c) Recommendations, if any, concerning water quality standards revisions, data and information needs, water quality and biological survey needs, special surveys or studies, or suggested provisions for NPDES permits; and

(d) A listing of sources of data, surveys, studies, plans and other scientific information, or other public comment that was taken into account by the Agency as part of the AT project review.

9. Agency Overview Procedures

As part of the Agency's responsibilities for providing program overview, EPA Headquarters will evaluate: (a) The Region's screening process for previously exempted projects (see subsection 1 of this section), and (b) the adequacy of individual Regional/State AT project reviews. For each AT project reviewed by the Region or State, the Regional Administrator shall prepare a brief summary of the proposed treatment processes, the funding decision resulting from the review, and the basis for that decision. For AT reviews conducted by the Regions, this report can serve as the summary documentation discussed in subsection 6 of this section. Summary documentation of AT reviews will be used as a basis for conducting evaluations under the Office of Water Operating Guidance and Accountability System.

Dated: April 26, 1984.

Jack E. Egan,
Assistant Administrator for Water.

Appendix A—Technical Procedures for Advanced Treatment (AT) Project Reviews

These technical procedures, as applicable, will be followed for AT reviews conducted by EPA Headquarters under this policy and should be used for projects of \$3 million or less to ensure consistency of reviews. As technical guidance is issued by the Office of Water under its "Standards to Permits" priority project program, these procedures will be updated as necessary.

1. Incremental AT Cost

The incremental AT cost is defined as the difference in total capital cost between the most cost-effective secondary treatment facility and the proposed treatment alternative. To develop secondary treatment cost, current cost curves adjusted for the local area or equivalent current cost experience should be used. Where the proposed project involves regionalization or relocation of a discharge point, all pump stations and conveyance systems should be included in the total capital cost.

2. Assessment of Significant Improvement

Congressional directives require that grant funds be used for the construction of new facilities providing treatment greater than secondary only if the advance treatment is required and will definitely result in significant water quality and public health improvements. The AT review criteria of this policy require an assessment of the significance of water quality improvements resulting from the effluent limitations in terms of contributions towards attaining or restoring designated uses.

In applying the AT review criteria and ensuring that the proposed project meets the criteria, project reviews should take into account the following:

(a) In some cases, showing only improvements in chemical water quality parameters may not sufficiently demonstrate a substantial contribution towards the restoration of a use, due to other factors such as man-made physical or hydrologic modifications of a stream or intermittent flows that restrict or prevent use attainment.

(b) A justification for funding an AT project can be based on the need to prevent a projected use impairment if scientific data, information, and analyses (including an assessment of the timing and probability of the future pollutant loadings) show that a municipal discharge (without providing for AT) is likely to result in the impairment of a designated use. However, where impaired uses are projected based on uncertain pollutant loadings, funding of that future AT need should be deferred, and provisions made for monitoring the water quality and biological impacts (see subsection 7(b) of Implementation section).

3. Water Quality Criteria for Ammonia Toxicity

Due to the significant uncertainties concerning the chronic effects of ammonia toxicity concentrations

normally encountered in receiving water, AT facilities that are proposed for sole purpose of preventing ammonia toxicity should be approved only if the following has been demonstrated:

(a) Site specific biological data show that designated uses cannot be restored (or impairment prevented) without reducing ammonia toxicity; or,

(b) Bioassay data (e.g., either laboratory or from a similar site) for resident species show that existing or future ammonia toxicity levels will impair beneficial use attainment. Exposure levels and duration for these tests should be similar to those occurring or anticipated to occur in the receiving water.

After publication of new ammonia toxicity criteria by EPA, AT processes proposed solely to prevent ammonia toxicity may be approved consistent with those criteria and the criteria implementation document provided that there is a showing that species used to derive the criteria are present or could be present with the reduction of ammonia.

4. Modeling Analysis

An appropriate modeling analysis should be used to assess the relationship between alternative levels of treatment and resultant water quality. These analyses can range from simple to complex. Complex modeling should be calibrated and verified. (Sensitivity analyses applied to the variables of the model can help establish whether collection of new data is essential.) Simplified procedures may be appropriate in some situations. However, projects that involve discharge into complex stream segments (e.g., with multiple dischargers or dynamic flow characteristics) need more complex analyses. Projects with discharge into lakes, estuaries, or oceans should have special analyses that usually include complex modeling. Normally these projects involve long-term effects rather than critical event analyses often used for the analysis of rivers.

The project assessment should weigh the uncertainties inherent in the water quality analyses with the marginal costs of the processes being proposed. For example, simplified water quality analyses, with more uncertainties than detailed modeling studies (See Simplified Analytical Method—September 28, 1960 and addendum dated July 25, 1982), may suffice for projects with inexpensive processes that would achieve significant pollution reduction. However, because of the uncertainties and assumptions generally inherent in a simplified analysis, this approach may

be inadequate for AT processes with high marginal costs with limited pollutant reduction. In such cases, more sophisticated modeling may be required.

5. NPDES Permit Effluent Limitations

The NPDES permit effluent limitations for the proposed AT facility and the facility process design related thereto serve as the baseline for the AT project evaluation. The evaluation should assess the effluent quality attainable from the proposed AT facilities during both critical low flow periods with minimum infiltration/inflow (usually hot, dry months) and during higher flow periods as well. The evaluation should also include determination of the effluent quality attainable during such flow condition for the secondary treatment processes and that attainable from each proposed AT process as an added increment. The costs of each AT increment should also be provided.

The AT project evaluation should analyze use of seasonal effluent limitations for achieving the water quality standards. The effects of seasonal effluent limitations on selection, design, operation and costs of AT processes, particularly those for ammonia and CBOD removal, should be assessed.

The permit averaging period (e.g., the 7-day or 30-day average) is critical to improving water quality with the least AT cost. Because the flow variability of each receiving water is different and the variability of effluent quality for each AT process is unique, a single averaging period may not apply to all situations. For these reasons, the derivation of the 7-day and 30-day limitations should be based on a careful evaluation of the effluent quality variability that can be tolerated in the receiving waters.

The Agency is conducting technical analyses to study the effects of effluent concentration and streamflow variability, different dilution ratios, and the use of alternative averaging period schemes on receiving water quality. Preliminary results indicate that effluent and streamflow variability and upstream dilution are critical factors affecting the frequency of severe water quality violations.

Based on currently available data for treatment plant performance, full nitrification is a relatively stable treatment process producing stable effluent quality during the summer months. When considered together with streamflow variability and dilution, a nitrified effluent should not cause wide water quality fluctuations during periods of low, stable stream flow.

Preliminary analysis indicate that small fluctuations in the effluent quality of full nitrification facilities designed to achieve 30-day average permit limitations are not likely to have any significant impact on designated uses, especially where the variability of the stream flow is low. Thus, model output should be set as a 30-day average unless site-specific analyses indicate otherwise.

The filtration process usually reduces fluctuations in the quality of treatment plant effluent. Thus, a 30-day average for CBOD₅ and NH₃ should be used for such a process unless site-specific analyses indicate otherwise.

Since the receiving water response to fluctuations in inorganic nutrient loadings (phosphorus and inorganic nitrogen) is often slow, short-term fluctuations should not significantly impact receiving water quality. At least a 30-day averaging period, preferably based on site-specific analysis, should be used for nutrient models. In addition, since a chronic toxicity criterion is a "no effect" level for 95 percent of exposed aquatic organisms, the return period of such 30 day exposures must be considered on a site specific basis, taking into account the extent of the effects of the discharge on the aquatic life in the receiving waters.

NPDES regulations require municipal permit limitations to be expressed as both 7-day and 30-day average limitations. Once the appropriate permit averaging period for the model output has been determined, effluent limitations should be calculated for the other averaging periods. For example, if the model output is used as a 30-day limitation, the 7-day limitations must also be calculated. If necessary, the AT Task Force may make conclusions based on 7-day and 30-day averaging periods to the extent that sufficient water quality analysis and data have been submitted or are otherwise available to evaluate these averaging periods.

8. Use of CBOD₅ Measurement for Water Quality Modeling to Assess Effects of Existing Treatment Facilities

Dissolved oxygen water quality analyses generally account for carbonaceous oxygen demand and nitrogenous oxygen demand from oxidation of ammonia separately. However, the standard uninhibited BOD₅ test measures effects of both carbonaceous and nitrogenous oxygen demand if nitrifiers are present in the test sample. Thus, when water quality impacts of existing municipal discharges are modeled, the nitrogenous oxygen demand may be double counted if

standard BOD₅ test procedures are used as the model input to represent effluent quality.

To avoid potential double counting of nitrogenous oxygen demand, the ultimate carbonaceous biochemical oxygen demand (CBOD_u) should be used, as appropriate, as CBOD input to the water quality analyses. Necessary adjustment to the CBOD₅ to CBOD_u ratio should be made for the level of treatment considered, so that actual CBOD₅ loading reflects the future conditions. Treatment capabilities, expressed in terms of CBOD₅, should represent plant performance expected during the period being modeled (generally warm weather, low flow conditions). AT reviews will be based on CBOD₅. Since BOD₅ has been used in the past to set permit requirements, conversion of CBOD₅ results to BOD₅ effluent limitations is as site-specific determination to be made by the State.

7. Design Conditions for Stream's Critical Events

The critical low flow used in the modeling should reflect the nature of the water quality criteria used in the analysis (*i.e.*, chronic or acute). Typically, most analyses evaluate chronic exposure criteria. Since model outputs are usually based on meeting a chronic criterion value (30-day duration of exposure) at an appropriate low flow, model outputs should not be set in permits as 1-day averages, unless there is a statistical analysis clearly demonstrating that the stringent effluent averaging period requirements are needed to attain designated uses. It may be appropriate to set the model output as a 1-day average if an acute criterion is used as the target concentration for the model.

8. Nonpoint Sources

Pollution from nonpoint sources may degrade water quality regardless of point source contributions. For example, upstream background conditions could prevent attainment of standards or a significant water quality improvement even with AT. In such situations, nonpoint sources should be part of the analysis used to assess the relationship between alternative levels of treatment and resultant water quality. Although nonpoint sources usually do not directly affect stream water quality at critical low flow conditions, the water quality effects from nonpoint source residuals, *e.g.*, in-place pollutants, may be significant at low flow. Irrigation return flows may also be a significant nonpoint source in some cases. Other nonpoint pollution may include discharge of poor

quality water from an upstream lake or reservoir, or marsh drainage.

In those situations where nonpoint sources are suspected of causing or contributing to non-attainment of standards, an assessment should be made of the relative contribution of point and nonpoint sources. Where Best Management Practices for nonpoint source control have been identified by the State under its water quality management process as required to achieve standards not now being attained, these controls should be in place or be included in a certified and approved water quality management plan.

8. Nitrification

After treatment beyond secondary has been demonstrated as necessary to enhance dissolved oxygen levels, nitrification facilities are usually cost-effective where nitrification occurs in the receiving water.

Nitrification has the coincidental benefit for reducing the risk of ammonia toxicity. This additional benefit should be considered in the overall water quality assessment of the project. If ammonia toxicity is the sole reason for proposed nitrification facilities, the ammonia limitations should be supported by site specific criteria and field survey data developed in accordance with procedures outlined in section 3, above.

10. Filtration

A tertiary filtration process by itself or following nitrification is generally less cost-effective than a nitrification process in removing oxygen demanding materials. In addition, since nitrification prior to filtration removes most of the remaining ultimate carbonaceous oxygen demand, water quality analyses are often not sufficiently sensitive to determine the small incremental water quality improvement (*e.g.*, 3 to 5 mg/CBOD₅ reduction) afforded by the added filtration process.

Proposed filtration following nitrification may be justified in situations where additional plant reliability is necessary to protect beneficial uses, or for facilities having harmful chemicals discharging to a drinking water source. Filtration following nitrification may also be needed to afford reliability when it is demonstrated that upsets would occur with sufficient frequency and severity to impair beneficial uses, particularly a drinking water use near the effluent discharge point.

For each of the above cases, the filtration process should be

demonstrated to be the most cost-effective control alternative available to achieve the designated beneficial use.

11. Phosphorus removal

Phosphorus removal to a level no more stringent than 1.0 mg/l total phosphorus can be justified by a study that includes: (a) A finding that total phosphorus is or will be the nutrient that limits plant growth; (b) a nutrient budget for the receiving water showing contributions of the nonpoint and point sources of total phosphorus; and (c) a demonstration that control of point sources alone will result in significant reduction of phosphorus loading; or, if conjunctive point and nonpoint controls are needed to provide a significant reduction of total phosphorus loading, a demonstration that such provisions are included in a certified and approved water quality management plan.

Comprehensive water quality analyses should be conducted in those cases involving basinwide phosphorus limitations or very stringent limitations (e.g., less than 1 mg/l).

12. Suspended Solids Removal

Treatment processes proposed solely to achieve SS effluent limitations more stringent than secondary treatment levels should not be approved, unless it is demonstrated that (1) the additional SS removal is required to achieve the proposed effluent limitation for other constituents e.g., CBOD, coliform or toxics, or (2) discharge of secondary treatment SS levels would result in a substantial contribution to impairment of a use.

13. Disinfection

Where chlorination is proposed along with AT processes, the benefits and adverse impacts of chlorine on designated uses should be evaluated as part of the AT review. Chlorination of wastewater produces chlorine compounds that can be extremely toxic to aquatic wildlife. Where the receiving water does not provide sufficient dilution, such compounds could prevent the attainment of the water quality improvements that are otherwise expected to result from the proposed AT facilities. If chlorination is the method proposed for disinfection and the receiving water is designated for aquatic wildlife protection, the project should include dechlorination facilities unless an analysis is presented to show that the concentration of chlorine compounds in the receiving water will not exceed criteria established to protect this use. The recommended criterion for chronic exposure (30 days) for the protection of freshwater aquatic

life in streams is that recommended in EPA's "Water Quality Criteria for Chlorine" (see Federal Register, 49 FR 4551, February 7, 1984 for draft recommendations; the final "Water Quality Criteria for Chlorine" document will be available by November 1984). Chronic effects from total residual chlorine (TRC) in chlorinated effluents are extremely variable depending on the rate of decay of TRC and, therefore, should be evaluated on a case-by-case basis.

14. Biological Monitoring

Biological monitoring is valuable for assessing overall water quality, and may be essential for some projects where there is currently an impairment of the designated use. An EPA Technical Support Manual on Water Body Surveys and Assessments for Conducting Use Attainability Analyses discusses biological monitoring and provides a bibliography of references on biological monitoring.

Appendix B—Relationship to Previous Policies

1. Previous Policies

PRM 79-7 contained a general policy for review of AT projects. It categorized AT projects in one of two ways: Advanced secondary treatment (AST) or advanced wastewater treatment (AWT). In addition to the general review policy and definitions of AT, PRM 79-7 also outlined the procedure and criteria for review of these projects. Briefly, projects were to be reviewed on the basis of the water quality justification including a demonstration that the wasteload allocation or other water quality analyses justifying the effluent limitations were scientifically supported by intensive surveys or other field investigations; land treatment had been adequately evaluated in all cases; the treatment processes were the most cost-effective means of meeting the prescribed effluent limitations; and finally, the project costs would not result in an undue financial burden to domestic users.

On December 28, 1979, the State of Illinois filed suit in U.S. District Court in the District of Columbia to contest a decision by the Administrator on the Galesburg, Illinois, AT project. As a result of the Agency's review of that project, the tertiary filtration facilities of the Galesburg project were deferred pending water quality justification.

EPA and the State of Illinois entered into negotiations on the Illinois suit and eventually signed a settlement agreement which was embodied in a court order on May 22, 1980. The

settlement agreement, although retaining many key provisions of PRM 79-7, required Federal Register publication of a draft revision of the PRM to reflect the process and new criteria for review agreed upon by the two parties. In anticipation of the Federal Register publication, on May 30, 1980, EPA issued a memorandum, which provided EPA regional offices with the option of using the draft Federal Register policy as an interim policy, subject to Headquarters approval. On June 20, 1980, EPA published a revised draft of a replacement policy for PRM 79-7 in the Federal Register [45 FR 41690], in accordance with the settlement agreement. PRM 79-7, the settlement agreement and interim policies based on the revised June 20, 1980, draft have all been used in reviewing AT projects during the past three years.

2. Revisions to Draft Policy

The June 20, 1980, draft AT policy has been revised to include a number of changes in organization and emphasis. These revisions reflect the Agency's experience in conducting AT project reviews and respond to:

- (1) Recent program initiatives and regulatory reform efforts,
- (2) Comments received on the draft policy and subsequent revisions, and
- (3) Congressional directives contained in actions on the fiscal year 1981 appropriation for the construction grants program and the "Municipal Wastewater Treatment Construction Grant Amendments of 1981."

a. *Significant Water Quality Improvements and Restoration of Designated Uses.* The AT review policy emphasizes the need for a rigorous justification of the water quality and public health improvements resulting from AT projects. This change reflects both the likelihood that the availability of construction grant funds will be limited and the need to use limited funds on the attainment of significant water quality or public health improvements. The significance of improvements resulting from an AT project will be assessed in terms of contributions made to restoring designated uses or preventing their impairment. For each project, funding decisions will be based upon the best available scientific information and the best professional judgment of the responsible official of the extent to which the project meets the review criteria.

b. *Elimination of the Affordability Guidelines from AT Review Policy.* The Agency has reassessed the issue of affordability guidelines and their relationship to the AT review process.

Issues of project affordability, which can more appropriately be stated as grantee financial capability, will not be addressed as a part of an AT project review.

Under the Clean Water Act, prior to awarding a construction grant, the Administrator is specifically charged with making certain determination, including whether the grantee has the necessary financial and management capability to construct, operate, and maintain the wastewater treatment facilities. To serve the intent of the Clean Water Act, the Agency emphasizes that all grantees must demonstrate financial capability prior to a construction grant award [40 CFR 35.2104]. The Agency has prepared a policy on financial capability and guidance that grantees can use to meet the policy requirements. An adequate demonstration will involve a more comprehensive analysis and display of data and information than previously required on local financial and management capabilities.

C. Inflationary Impacts. Since the initiation of the AT project reviews under PRM 79-7, EPA Headquarters has received over eighty projects for review. In more than half of all the projects reviewed, AT project components were deferred, usually pending additional water quality justification. Real resource costs (constant dollars) saved or deferred so far total \$710 million. In order to reduce the adverse effects of rising costs caused by inflationary factors, the Agency had suggested provisions for excluding projects where the costs for AT could be less than the inflationary costs of delay. However, since there has now been ample

opportunity for grantees, States and Regions to anticipate needed AT reviews, and since inflation has lessened, the Agency has eliminated exemptions based on inflationary factors.

d. Review Responsibilities. Some proposed changes to the AT review policy were precluded by the language of the Appropriations Committee actions. For projects with AT incremental costs over \$3 million, the FY 81 Appropriations Conference Committee Report directed the Agency to continue the AT project reviews, perform the reviews at Headquarters, and cease delegation of data collection and project evaluation to Regions and States. The FY 81 Appropriations Act (Pub. L. 96-526) further provided for the continuation of AT project reviews by exempting them from Appropriation Act language which otherwise prohibited retroactive requirements for the construction grants program. Additionally, the FY 84 House Appropriations Committee Report (98-223) urged that State and Regional reviews be based on the same set of criteria as Headquarters to avoid potential wasted effort in planning and design of projects that may not be approvable. Therefore, the AT review policy does not include provisions of the June 20, 1980 draft that would have delegated Headquarters review or preparation of reports to the Regions or delegated States for projects with an incremental cost over \$3 million.

The June 20, 1980 draft classified AT projects as either advanced waste treatment (AWT) or advanced secondary treatment (AST). That distinction has been dropped; AT will be

used to refer to both AWT and AST. The June 20 draft specified that *all* AWT projects and those AST projects costing over \$3 million beyond secondary go to Headquarters for review. To be consistent and reduce confusion, the policy requires that only those AT (AWT or AST) projects with an incremental cost over \$3 million undergo Headquarters review.

e. Elimination of two discrete and separate levels of review. The June 20 draft described two levels of review reports: Effluent limitations assessments and comprehensive evaluations. The assessment was less broad in scope than the evaluation. The level of project review resulted from screening for financial impact and inflation impact. The policy eliminates the distinction in favor of one assessment which may vary in detail from case to case. This action was based on EPA's experience in the past two years and the finding that few projects fit neatly into one category of review or another. The Agency's underlying premise in defining the scope of each project review will be to continue to concentrate on only those issues related to AT funding decisions. Issues will be narrowly defined at first and then broadened if other factors affecting the need for AT are demonstrated. Regions and States are strongly encouraged to submit AT projects for early Headquarters reviews of effluent limitations and modeling issues, so that issues will be narrowly defined at the time of the specific project review.

[FR Doc. 84-12213 Filed 5-18-84; 8:45 am]

BILLING CODE 5550-50-50

APPENDIX B
LIST OF EPA PUBLICATIONS

APPENDIX B

LIST OF EPA PUBLICATIONS

<u>LIST OF SELECTED PUBLICATIONS</u>	<u>ORDERING SOURCE AND NUMBER</u>
1. A Guide to Regulations and Guidance for the Utilization and Disposal of Municipal Sludge, (EPA 430/9-80-015), September 1980.	EPA - WH-547 401 M. Street, S.W. Washington, D.C. 20460 Ordering No. MCD-72
2. Cost of Land Treatment Systems (EPA 430/9-75-003), Revised September 1979.	EPA (address above) Ordering No. MCD-10
3. Construction Costs for Municipal Wastewater Conveyance Systems, 1973-1979, (EPA 430/9-81-003), January 1981.	EPA (address above) Ordering No. FRD-21
4. Construction Costs for Municipal Wastewater Treatment Plants, 1973-1978, (EPA 430/9-80-003), April 1980.	EPA (address above) Ordering No. FRD-11
5. Composting Processes to Stabilize and Disinfect Municipal Sewage Sludge (EPA 430/9-81-011), June 1981.	U.S. Department of Commerce National Technical Information Service (NTIS) 5285 Port Royal Road Springfield, Virginia 22161 (703) 487-4650
6. Design Manual - Onsite Wastewater Treatment and Disposal Systems, (EPA 625/1-80-012), October 1980.	USEPA - CERI Cincinnati, Ohio 45268 (513) 684-7562
7. Environmental Assessment of Construction Grants Projects (EPA 430/9-79-007), January 1979	NTIS (address above) Ordering No. PB 299209/AS
8. Field Manual - Performance Evaluation and Troubleshooting at Municipal Wastewater Treatment Facilities, (EPA 430/9-78-001), January 1978.	Information Reference Center (IRC) The Ohio State University 1200 Chambers Road - Rm. 310 Columbus, Ohio 43212 (614) 422-6717 Ordering No. 016U

LIST OF SELECTED PUBLICATIONS

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- | | |
|--|--|
| 9. Financial Capability Guidebook,
March 1984 | NTIS (address above)
Order by title |
| 10. Handbook for Sewer Systems
Evaluation and Rehabilitation,
(EPA 430/9-75-021), December 1975. | NTIS (address above)
Ordering No. PB 257457/AS |
| 11. Innovative and Alternative
Technology Assessment Manual,
(EPA 430/9-78-009), February 1980. | NTIS (address above)
Ordering No. PB 81103277 |
| 12. Innovative and Alternative
Technology Case Studies,
(EPA 430/9-81-010), January 1981. | NTIS (address above)
Ordering No. PB 81246126 |
| 13. Management of Construction
Grant Change Orders - A Guide
for Grantees, March 1983. | NTIS (address above)
Ordering No. PB 83211490 |
| 14. Management of On-Site and Small
Community Wastewater Systems
(EPA 600/8-82-009),
July 1982 | NTIS (address above)
Ordering No. PB 82260829 |
| 15. Management of Small Flows
(EPA 600/2-78-173), September 1980. | NTIS (address above)
Ordering No. PB 286560 |
| 16. Manual of Practice - Sewer System
Evaluation, Rehabilitation and New
Construction, (EPA 600/2-77-017d) | NTIS (address above)
Ordering No. PB 279248/AS |
| 17. Overview of the National Pretreatment
Program, March 1984 | EPA-EN-336
Permits Division
401 M. Street, SW
Washington, D.C. 20460 |
| 18. Process Design Manual - Sludge
Treatment and Disposal,
(EPA 625/1-79-011), October 1979. | NTIS (address above)
Ordering No. PB 80200546 |
| 19. Process Design Manual - Land
Treatment of Municipal Wastewater,
(EPA 625/1-81-013), October 1981. | USEPA - CERL (address above) |
| 20. Sludge Treatment and Disposal,
2 Volumes, (EPA 625/4-78-012),
October 1978. | NTIS (address above)
Volume 1 - "Sludge Treatment"
Ordering No. PB 299593/AS

Volume 2 - "Sludge Disposal"
Ordering No. PB 299594/2BE |

LIST OF SELECTED PUBLICATIONS

ORDERING SOURCE AND NUMBER

21. Small Wastewater Systems -
Alternative Systems for Small
Communities and Rural Areas,
January 1980. (foldout)

EPA (address above)
Ordering No. FRD-10

22. Uniform Appraisal Standards
for Federal Land Acquisition.

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20460
(202) 783-3238
Ordering No. 052-059-000020

Other information is available
from:

CAPDET Center
Civil Engineering Department
Mississippi State University
P.O. Box C E
Mississippi, Missouri 39762

National Small Wastewater Flows
Clearinghouse (SAWS)
258 Stewart Street
West Virginia University
Morgantown, West Virginia 26506
(800) 624-8301

Innovative and Alternative
Technology Clearinghouse
Municipal Research Laboratory
26 West St. Clair
Cincinnati, Ohio 45268
(513) 684-7611

A Planning and Design Guidebook
for Combined Sewer Overflow
Control and Treatment,
(EPA 600/2-82-084), August 1982.

NTIS (address above)
Ordering No. PB 82 259235

Code of Federal Regulations (CFR)
Title 40 - Protection of Environment

Superintendent of Documents
U.S. Government Printing Office
Washington, D. C. 20402
(202) 783-3238

(Telephone for prices of
sections needed).

LIST OF SELECTED PUBLICATIONS

Considerations for Preparation
of Operation and Maintenance
Manuals, January 1974.
Rural and Small Town Planning

ORDERING SOURCE AND NUMBER

IRC (address above)
Ordering No. 05U

American Planning Association
Planners Press
1313 East 60th
Chicago, Illinois 60637
(312) 955-9100, ext. 265
Price: \$14.95

APPENDIX C
BEFORE AND AFTER
STUDY GUIDANCE

APPENDIX C

"BEFORE AND AFTER" STUDY GUIDANCE

This document presents technical procedures on how to assess the water quality improvements that result from the construction of municipal and industrial treatment facilities. A wide variation of water quality data, from limited biological surveys to comprehensive studies of the physical and chemical properties of the receiving water, can be used to identify changes in water quality over time. By documenting the water quality responses to increased treatment, these "before and after" analyses can be used to evaluate how effective various treatment processes are in meeting water quality goals and objectives.

Under severe budgetary constraints, Congress, State and local governments and laypersons have expressed increasing concern over whether expenditures for water pollution control have resulted in significant improvements in water quality and water uses. In particular, analyses used to predict the water quality impact of expensive advanced treatment (AT) processes have recently been reevaluated by EPA and the States either directly or indirectly as part of EPA's AT Review Program. As more water quality emphasis is placed on the construction grant program, additional analyses will be needed to show that the greatest water quality improvement is being provided at the least cost.

A post-operation or "after" study is essentially a wasteload allocation performed after completion and operation of a treatment process, with particular emphasis placed on the beneficial use impacts. Consequently, biological evaluations, along with the physical and chemical data commonly collected in a wasteload allocation, can be compared to any historical or "before" data to detect how changes in water quality impact beneficial uses. Further comparisons using a mathematical model can also be used to predict current and future water quality conditions with and without the treatment process. The result is an actual measurement, either qualitative or quantitative, of the water quality effects of the discharge and associated treatment processes on water quality and water uses.

The following tasks outline sample procedures that should be considered in designing a "before and after" study program. In addition, a report entitled "Before and After Comparisons of Water Quality Following Municipal Treatment Plant Improvements" is available in which thirteen before and after case studies were performed; see the bibliography appendix. This guidance and the case study report also addresses some of the other beneficial consequences that can result from such a program, as listed below.

- o These studies can also be used to determine the need for additional treatment or the need for revision of the water quality standards.
- o Comparison of the "before and after" water quality conditions can be used to determine the accuracy of wasteload allocation predictions and the appropriateness of the wasteload allocation procedures and assumptions.
- o These studies can detect previously unknown causes of water quality problems that prevent attainment of beneficial uses.

I. Project Selection Criteria

The following general criteria can be used to select the types of projects best suited for "before and after" analyses.

- Municipal or industrial treatment facilities which have significantly improved their performance or installed new unit processes.
- Non-complex planning situations to simplify the development of relationships between the discharge loadings and the water quality response.
- Projects should have some water quality data, either biological and/or chemical, which represents the "before" conditions. However, projects without "before" modeling should also be included to determine the extent to which water quality improvements can be demonstrated without "before" data or modeling. For example, if only a State policy was used to justify a project, the collection of "after" data will be useful in either verifying or refuting the assumptions which form the basis of the policy.
- Projects with both detailed "before" modeling work and biological data are particularly useful.
- Projects should have historical performance data for the major discharges in the study area.
- Selection should not be biased toward projects that are considered to provide the greatest water quality improvement. Understanding which planning situations (type of receiving water and treatment process) provide only a small water quality improvement are also useful.
- Projects can cover several types of receiving waters, treatment processes and the level of technical justification, as listed below.

Receiving Waters:

- o Streams/rivers -- high, medium, low and intermittent flows
- o Lakes -- long and short detention times, deep and shallow, oligotrophic and eutrophic.
- o Others -- estuaries, oceans, bays, etc.

Treatment Levels:

- o Secondary
- o Nitrification
- o Tertiary filtration
- o Nutrient removal
- o Others

Justification Levels:

- o Detailed modeling with data
- o Simplified modeling with or without data; e.g., "simplified Modeling" Methodology
- o Data analysis only; e.g., loading calculations or biological data analysis
- o State policy supported by data
- o State policy with no data

II. Assess the "Before" Water Quality Condition

- Gather the following types of data for each project.
 - o Facility planning information including the "before", "after" and projected flow conditions, loadings, population served and types of processes.
 - o Plant performance data that corresponds to the period that water quality data was collected; e.g., flow and concentration.
 - o Hydrologic data used to determine the critical condition; i.e. 7Q10.
 - o Water quality data used to support the modeling and other data which characterize water quality prior to the completion of the construction project.
 - o Water quality data for waters other than the project receiving water which may also exhibit an improvement; e.g., projects which include elimination of discharges as part of a regionalization of wastewater treatment.
 - o Data which characterizes the biological integrity of the receiving water. This data is particularly useful in assessing water quality improvements.
 - o Model or data analysis documentation. Information should include: model type or analysis used, rates selected, assumptions used during calibration, sensitivity/uncertainty, and other information which is needed to reconstruct the WLA.
 - o Water quality standards currently in effect for the receiving water.
- Compile raw data in a form that can be used to evaluate the "before" water quality situation. For example, plot DO, nutrients, SOD, BOD, and model rates versus river mile; prepare bar graphs of point and nonpoint source loadings in lake situations; map locations of dischargers and sampling stations.
- Identify data that indicate a water quality problem, both upstream and downstream of the discharges. What parameters are significant? Compare this "problem" data to any standards in effect such as DO. Which

standards are being violated under existing conditions? What is the spatial and temporal extent of the problem?

- Summarize the "before" water quality condition.

III. Assess the Predicted Water Quality Improvement

- Reiterate the conclusions of the original wasteload allocation (WLA).
 - o If previous modeling work was used to justify the project, outline the water quality response that the model predicted; e.g., DO improvement, reduced spatial extent of problem, etc.
 - o If a loading analysis was used in the WLA, summarize the impact that the loading reduction is predicted to have and document the rationale used to relate the reductions to improved water quality. For example if ammonia toxicity was used as a basis for justifying nitrification, what was the reduction in unionized ammonia levels that was predicted to occur downstream of the plant?
 - o If no modeling or other analyses were used to determine permit limitation (e.g., State policy was used in lieu of a WLA), summarize the rationale used to support the limitation for each specific project and determine from this the "assumed" water quality improvement.
- Describe the predicted water quality improvement in terms that can be measured in an "after" water quality study; e.g., DO, nutrient, chlorophyll "a" concentrations, BOD, algal type, SOD, etc. In other words, identify the parameters that should be measured in an "after" study.
- Determine the sensitivity of the WLA and the impact of the uncertainty on the ability of the project to achieve the predicted water quality improvement.

IV. Collect and Compile Post-Operation Water Quality Data

- Design the "after" survey similar to the "before" survey in terms of the time of year and day, temperature, location, etc. so that consistent comparisons can be made. Note that some revisions to the "before" survey design may be necessary in designing the "after" survey.
- In particular, collect data that will clarify the uncertainties of the previous WLA and further describes the water quality problem.
- If modeling was previously used, collect data that are needed to refine key rates or other data to verify previous predictions.
- If plant was not justified by a wasteload allocation modeling study or was justified by a State policy, collect data necessary to develop a calibrated model which will reflect the "after" water quality condition. Back calibrating the model to reflect the "before" plant loading condition can then be used as the basis for comparison.

- Collect "after" data on all waters affected by the project under evaluation. For example, if the project involves regionalization of wastewater treatment, the water quality improvement resulting from removal of a discharge should be documented.
- If "before" biological data is available (fish population, macroinvertebrate diversity, algal types, etc.) collect similar "after" biological data.
- Collect biological data upstream and downstream of the plant to establish a background biological condition.
- Collect any data that are used as criteria in water quality standards; e.g., DO and coliforms.

V. Assess the Measured Water Quality Improvement

- Table 1 describes in tabular form the types of "before and after" comparisons and time frames that can be used to estimate water quality improvements. The types of comparisons are described in detail below and include the use of loading calculations, model results such as dissolved oxygen and chlorophyll "a", biological data and water use information to measure the improvements in water quality.
- Several time frames should be used to determine both short and long-term improvements. This distinction is essential in situations where the design capacity of the plant has not been reached at the time the "after" data was collected. Short-term improvements are those actually measured by the "after" study and include the four comparison categories listed in Table 1. Long-term improvements are those which are expected to occur between the time "after" data was collected and the end of the twenty year planning period (i.e., when the plant reaches its design capacity.) Although these long-term improvements must be predicted with a model or otherwise estimated from current information, the improved reliability in the modeling work afforded by the "before" and "after" analysis should provide additional accuracy to the original WLA predictions. These predicted long-term improvements are therefore also suggested as a component of the program design.
- It should be assured in each case that water quality changes measured in the "after" survey are due to the plant improvements and not due to a change in upstream or background pollutant loadings. If the background condition has changed significantly (e.g., removal or addition of another discharge), an additional comparison of the "after" water quality condition without the plant improvements will be needed to establish a basis for comparison. The following techniques can be used to measure the water quality improvements.
- Loading Comparisons (Quantitative) - Calculate loadings for parameters reduced by the treatment plant under "before", "after" (current) and future conditions.

- Model Comparisons (Quantitative) - Use the "before" and "after" data to calibrate and verify a water quality model. In non-complex water quality situations, a simplified model can be used.
 - o If a model was previously used in the original wasteload allocation, recalibrate the model using the "after" data. Refine the rates used in the earlier modeling work if necessary. Run the models under consistent "before" and "after" conditions (e.g., 7Q10, temperature, etc.) to provide a basis for comparison.
 - o If no model was previously used in the original wasteload allocation, use the "after" data to calibrate a water quality model. To provide a basis for comparison change the key rates (e.g., K_d) and input variables (e.g., BOD/NH₃ loadings) such that the output reflects the "before" water quality conditions.
 - o Review the model output and determine if plant improvements reduced the spatial and temporal extent of DO problems.
 - o For projects with nutrient removal to lakes, a Vollenweider type analysis may often be used to measure in-lake phosphorus concentrations. Use available regression techniques to translate phosphorus concentrations to chlorophyll "a" concentration. How did the plant reduce in-lake phytoplankton concentrations?
 - o In cases where SOD is a significant problem and has been measured in the "after" survey, use rough estimates based on literature values to determine reductions in SOD (i.e., since it is difficult to definitively predict reductions in SOD).

Biological Comparisons (Qualitative)

- o Gather "after" biological data consistent with "before" data.
- o Use available biological data to subjectively assess the biological water quality improvements; e.g., fish, macroinvertebrate, phytoplankton, habitat, etc. Use biological indexes if possible.
- o Compare biological data to chemical data and the above reference quantitative analyses. This will help determine relationships between chemical criteria and biological responses.
- o Determine the extent to which the biological response is due to the plant improvements.

Use Comparisons (Qualitative)

Determine the extent to which the above comparisons show that uses have been improved by the project. Did the water quality improvement result in an improved fisheries which in turn result in greater use of area waters for fishing? Use the above chemical and biological comparisons to determine whether the plant improvement lead to an improvement in fisheries potential.

- o If possible, contact local fish and wildlife offices to determine if uses have increased; e.g., number of fishing licences. Contact local citizens to determine if casual use has increased.
- o Did water quality improvement result in improved boating, swimming or shellfishing uses? Use the above chemical and biological comparisons to determine whether the plant improvement lead to an improved potential for these users.
- o If possible, contact local health departments to determine if the number of days when shellfish beds of swimming areas were closed has decreased.
- o Did the project improve the quality of a drinking water source?
- o Did the project result in attainment of water quality standards? Compare the measured or predicted water quality improvements to the water quality standards for the receiving water. If it is determined that standards will not be attained with the current project, use the model or other predictive tool to determine whether additional treatment will significantly improve water quality or attain standards.
- o Identify reasons for non-attainment of standards other than the point source discharge. For example, do toxic compounds, nonpoint sources, sediments or previously unidentified pollution sources prevent attainment of water quality standards?

VI. Summarize Water Quality Improvements

- Summarize the water quality and use improvements for each type of treatment process and receiving water.
- Summarize the types of data and analyses that are best suited to quantifying water quality improvements. Categorize by type of treatment and receiving water.
- Identify the planning situations (treatment process and receiving water type) that result in the greatest water quality improvement at the least cost.
- If standards were not attained with the treatment process, determine whether additional treatment or further analysis of the water quality standards is needed.
- Compare the predicted and measured responses.
- If the responses are significantly different, determine what assumptions, reaction rates, state policies or WLA procedures caused the prediction to be inaccurate.
- Identify the anomalies in State wasteload allocation procedures and make appropriate changes.

Table 1

Sample Comparisons
Water Quality Improvements

<u>Analysis Project</u>	<u>Short-term (2) Improvements</u>		<u>Long-term (3) Improvements (20 years)</u>	
	<u>"Before" (1)</u>	<u>"After"</u>	<u>With Project</u>	<u>Without</u>
<u>1. Loading Comparisons</u>				
	COD/UD/BOD			
	NH3/NO2/NO3			
	Phosphorus			
	coliforms			
	metals, other			
<u>2. Modeling Comparisons</u>				
	DO			
	chlorophyll "a"			
	Phosphorus			
	SOD			
<u>3. Biological Comparisons</u>				
	Fish populations			
	Diversity Indexes			
	Habitat Improvement			
	Turbidity			
<u>4. Use Comparisons</u>				
	General Descriptions (Aesthetics)			
	Swimming days			
	Shellfishing Harvesting days			

(1) Water quality condition measured before construction of the project.

(2) Water quality condition measured during post-operation water quality study. If the plant has recently come on line, this condition most likely will not represent future flow (population) conditions modeled in the original wasteload allocation.

(3) Water quality condition projected to the end of the 20 year planning period. Comparison of the improvement with and without the processes under evaluation can be used to predict future water quality improvements. Note that the original model should be corrected based on the comparison of "before" and "after" data and model results before projecting long-term improvements.

APPENDIX D
NATIONAL MUNICIPAL POLICY

APPENDIX D
NATIONAL MUNICIPAL POLICY
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
STATEMENT OF POLICY

When the Clean Water Act (CWA) was passed in 1972, Congress gave municipalities until 1977 to comply with its requirements. Congress authorized the Environmental Protection Agency (EPA) to extend the deadline to 1983 and then again to July 1, 1988, for some municipalities. In addition, Congress amended the CWA in 1981 to modify the basic treatment requirements. Therefore, Congress has authorized EPA to give some municipalities several additional years to achieve compliance and has also provided more reasonable treatment requirements for certain types of facilities.

The CWA requires all publicly owned treatment works (POTWs) to meet the statutory compliance deadlines and to achieve the water quality objectives of the CWA, whether or not they receive Federal funds. The EPA will focus on POTWs that previously received Federal funding assistance and are not currently in compliance with their applicable effluent limits, on all other major POTWs, and on minor POTWs that are contributing significantly to an impairment of water quality. EPA's goal will be to obtain compliance by POTWs as soon as possible, and no later than July 1, 1988. Where there are extraordinary circumstances that preclude compliance of such facilities by July 1, 1988, EPA will work with States and the affected municipal authorities to ensure that these POTWs are on enforceable schedules for achieving compliance as soon as possible thereafter, and are doing all they can in the meantime to abate pollution to the Nation's water.

IMPLEMENTATION STRATEGY

The Agency is committed to pursuing a clear course of action that fulfills the intent of Congress and results in the maximum improvement in water quality. The Agency is also committed to protecting the public's financial investment in wastewater treatment facilities. To meet these objectives, the Agency expects EPA regions and states to adhere to the National policy stated above and to use the following mechanisms to carry out the intent of this policy.

EPA regions will cooperate with their respective states to develop strategies that describe how they plan to bring noncomplying facilities into compliance. These strategies should include a complete inventory of all noncomplying facilities, should identify the affected municipalities consistent with the National policy, and should describe a plan to bring these POTWs into compliance as soon as possible. Regions and states will then use the annual state program grant negotiation process to reach agreement on the specific activities they will undertake to carry out the plan.

Based on the information in the final strategies, the permitting authority (Region or approved National Pollutant Discharge Elimination System (NPDES) State) will require affected municipal authorities to develop one of the following as necessary:

Composite Correction Plan: An affected municipality that has a constructed POTW that is not in compliance with its NPDES permit effluent limits will be required to develop a Composite Correction Plan (CCP). The CCP should describe the cause(s) of noncompliance, should outline the corrective actions necessary to achieve compliance, and should provide a schedule for completing the required work and for achieving compliance.

Municipal Compliance Plan: An affected municipality that needs to construct a wastewater treatment facility in order to achieve compliance will be required to develop a Municipal Compliance Plan (MCP). The MCP should describe the necessary treatment technology and estimated cost, should outline the proposed sources and methods of financing the proposed facility (both construction and operation and maintenance), and should provide a schedule for achieving compliance as soon as possible.

The permitting authority will use the information in these plans and will work with the affected municipality to develop a reasonable schedule for achieving compliance. In any case, where the affected municipal authority is unable to achieve compliance promptly, the permitting authority will, in addition to setting a schedule for achieving full compliance, ensure that the POTW undertakes appropriate interim steps that lead to full compliance as soon as possible. Where there are extraordinary circumstances that make it impossible for an affected municipal authority to meet a July 1, 1988, compliance date, the permitting authority will work with the affected municipality to establish a fixed-date schedule to achieve compliance in the shortest, reasonable period of time thereafter, including interim abatement measures as appropriate. The general goal is to establish enforceable compliance schedules for all affected municipalities by the end of FY 1985. Once schedules for affected municipalities are in place, the permitting authority will monitor progress towards compliance and will take follow-up action as appropriate. Nothing in this policy is intended to impede or delay any ongoing or future enforcement actions.

OVERVIEW

EPA headquarters will overview the implementation of this policy to ensure that actions taken by regions and states are consistent with National policy and that the Agency as a whole is making progress towards meeting the statutory deadlines and achieving the water quality objectives of the CWA.

APPENDIX E
PRESENT WORTH AND COST PREFERENCE

APPENDIX E
PRESENT WORTH AND COST PREFERENCE EXAMPLES

Example 1: Varying O&M Cost, Staged Construction, and Salvage Value

Given:

sewage treatment plant
capacity: year 1-10, 5 mgd; years 11-20, 10 mgd;
average flow through plant: increase linearly from 2 mgd to 10 mgd over 20 years;
planning period: 20 years;
salvage value at end of 20 years: \$750,000;
capital cost of plant (5 mgd): \$2,000,000;
future capital cost at year 10 to expand to 10 mgd: \$1,500,000;
O&M costs:

- a. constant annual O&M cost, years 1-10: \$84,000;
- b. variable annual O&M cost, years 1-10; increases linearly from \$0-\$29,000 in year 10;
- c. constant annual O&M cost, years 11-20: \$165,000;
- d. variable annual O&M cost, years 11-20: increases linearly from \$0-\$29,000 in year 20.

discount rate: 8 1/8%

Determine: Present worth and annual equivalent uniform cost of plant over 20 years.

Method: Present worth equals capital cost plus present worth of the operating and maintenance costs. Calculate O&M costs from year 10 and O&M costs for years 11 through 20 separately. Also add present worth of expansion and subtract present worth of salvage value from present worth of other costs. Equivalent uniform annual costs equals the present worth times the appropriate capital recovery factor.

Step 1:

Initial capital cost \$2,000,000

Step 2:

Present worth of expansion cost which occurs at year 10, times single payment present worth factor @ 8 1/8% for 10 years. Thus:

\$1,500,000 (.458) \$ 687,000

Step 3:

Calculate present worth of O&M costs as follows:

- a. Present worth of constant annual years 1-10 equals given cost times uniform series present worth factors @ 8 1/8% for 10 years. Thus:

\$84,000 (6.672) \$ 560,450

- b. Present worth of variable O&M costs years 1-10 equals gradient series (\$2,900) times present worth factor of a gradient series @ 8 1/8% for 10 years. Thus:

\$2,900 (25.769) \$ 74,730

- c. Present worth of constant O&M costs year 11-20 are first calculated as in (a) above using given cost for years 11-20. This, however, yields present worth in year 11 which must be converted to present worth in year 1. This is accomplished by multiplying present worth (year 11) times single payment present worth factor @ 8 1/8% for 10 years (.458). Thus, present worth in year 1 equals:

\$165,000 (6.672)(.458) \$ 504,200

- d. Present worth of variable O&M costs years 11-20 are first calculated as in (b) above using gradient series for years 11-20 which is \$2,900. This yields present worth in year 11 which again must be converted to present worth in year 1 by multiplying present worth (year 11) times single payment present worth factor 8 1/8% for 10 years (.458). Thus:

\$2,900 (25.769) (.458) \$ 34,230

Step 4:

Present worth of salvage value at end of 20 years equals that value times single payment present worth factor @ 8 1/8% for 20 years. Thus:

\$750,000 (.210) \$ 157,500

Step 5

The sums of values obtained in steps 1, 2, and 3 minus value obtained in step 4 equals present worth of plant. Thus:

initial capital cost \$2,000,000

present worth of expansion at year 10 \$ 687,000

present worth of constant O&M years
 1-10 \$ 560,450
 present worth of variable O&M years
 1-10 \$ 74,730
 present worth of constant O&M years
 11-20 \$ 504,200

present worth of variable O&M years
 11-20 \$ 34,230

Total \$3,860,610

Subtract from total the present worth of salvage value:

present worth of salvage value \$ 157,500

PRESENT WORTH of plant \$3,703,110

Step 6:

Multiplying present worth of plant (Step 5) times the capital recovery factor
 @ 8 1/8 for 20 years will yield equivalent uniform annual equivalent cost.
 Thus:

\$3,703,110 (.1028) \$ 380,680

Example 2: Present Worth Analysis of Onsite System Alternative

Given:

individual onsite treatment systems consisting of:

- a. rehabilitation, upgrading or replacement of onsite systems for 200 existing homes;
- b. major rehabilitation of 10 onsite systems per year;
- c. construction of 100 onsite systems for new homes.

planning period: 20 years

salvage value at end of 20 years: \$120,000

capital costs:

- a. rehabilitation, upgrading, replacement of 200 existing systems: \$400,000
- b. rehabilitation of 10 systems per year: \$20,000 per year
- c. construction of 100 new systems (5 per year for 20 years): \$13,000 per year*

average annual operation and maintenance cost (onsite management program for 500 systems): \$25,000 per year

discount rate: 8 1/8 percent

Determine: Present worth and equivalent uniform annual cost over 20 years.

Method: Present worth equals initial capital cost plus present worth of future capital costs plus present worth of operation and maintenance costs. Subtract present worth of salvage value. Equivalent uniform annual costs equals the present worth times the appropriate capital recovery factor.

Step 1:

Initial capital cost \$400,000

Step 2:

Calculate present worth of annual capital costs as follows:

- a. annual capital costs equal \$20,000 per year plus \$13,000 per year equals \$33,000 per year.
- b. present worth of annual capital cost equals given cost times the uniform series present worth factor at 8-1/8% for 20 years. Thus:

\$33,000 (9.728) \$321,000

*Not eligible for EPA grant funding

Step 3:

Present worth of annual O&M cost equals annual O&M costs times the uniform series present worth factor at 8-1/8% for 20 years. Thus:

\$25,000 (9.728) \$243,200

Step 4:

Present worth of salvage value at end of twenty years equals that value times the single payment present worth factor at 8-1/8% for 20 years. Thus:

\$120,000 (.210) \$ 25,200

Step 5:

The sum of values obtained in steps 1,2, and 3 minus the value obtained in step 4 equal present worth of alternative. Thus:

Initial capital cost	\$400,000
Present worth of future capital costs	321,000
Present worth of O&M	243,000
Total	<u>\$964,800</u>

Subtract from total the present worth of salvage value:

Present worth salvage value	\$ 25,200
PRESENT WORTH of alternative	<u>\$938,800</u>

Step 6

The present worth just derived times the capital recovery factor at 8-1/8% for 20 years will yield equivalent uniform annual cost. Thus:

\$938,800 (.1028) \$ 96,500

NOTE: When comparing conventional systems with alternative systems all costs, eligible and ineligible, must be considered, including service lines and hookup fees.

Example 3: Land Application

Given:

sewage treatment plant
capacity: 4.0 mgd
planning period: 20 years
capital cost: \$7,300,000 including land cost of \$137,000
average annual operation and maintenance cost: \$246,200
average annual crop yield \$20,000
discount rate: 8-1/8 percent
salvage value excluding land: \$2,236,200

Determine: Present worth over 20 years.

Method: Present worth equals the sum of capital cost plus present worth of the annual O&M minus the present worth of the average annual crop yield minus the present worth of the salvage value (Note: Land values must be appreciated at 3 percent/year before a salvage value is computed).

Step 1:

Capital cost \$7,300,000

Step 2:

Present worth of an annual cost equals annual cost times the uniform series present worth factor @ 8-1/8% for 20 years. The present worth of crop production is subtracted from the present worth of O&M to give the present worth of annual costs for the system.

O&M:	\$246,200 (9.728)		\$2,395,000
Crops:	20,000 (9.728)		\$ 194,600
PRESENT WORTH of annual costs			\$2,200,400

Step 3:

Compute the future value for the land by multiplying the present value of land by the compound amount factor @ 3 percent for 20 years.

Future value: \$137,000 (1.806) \$ 247,400

Step 4:

Compute the total present worth of the salvage value by multiplying the value at the end of 20 years times the single payment present worth factor @ 8-1/8 percent for 20 years. Thus:

Land:	\$247,400 (.210)		\$ 52,000
Treatment plant	2,236,000 (.210)		\$ 469,600
Total			\$ 521,600

Step 5:

The sum of the value obtained in Step 1 and 2 minus the value obtained in Step 4 equals present worth of the plant. Thus:

Initial capital cost	\$ 7,300,000
Present worth of annual costs	\$ 2,200,400
Total	<u>\$ 9,500,400</u>

Subtract from total the present worth of
salvage value:

present worth of salvage value	<u>\$ 521,600</u>
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PRESENT WORTH of plant	\$ 8,978,800
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Note: If the land used for land application is purchased or leased by the municipality, the land is considered a cost to the project and therefore does enter into the present worth analysis. If a sharecropping arrangement exists between the municipality and the farmer, only the profits/losses realized by the municipality are used in the present worth analysis (Chapter 7).

EXAMPLE 4. Application of I&A Cost Preference

Given:

A proposed project includes portions which are classified as nonconventional (innovative or alternative technology). These components are the primary and secondary processes (pretreatment and land application) but sludge disposal is by conventional technology (sanitary landfill).

The present worth costs (including building, land, engineering fees, bond sale fees and start-up services) of the proposed system and the most cost-effective conventional system are shown below.

	Most Cost-Effective Conventional System		Proposed Nonconventional Technology System	
	Capital Cost	Present Worth*	Capital Cost	Present Worth *
Primary	\$ 100	\$ 110	\$ 31	\$ 35
Secondary	720	753	830	905
Sludge Disposal	873	971	873	971
Total	\$1,593	\$1,834	\$1,734	\$1,911

*Includes O&M

Determine: Whether the nonconventional technology system is cost effective by application of cost-preference procedures described in Chapter 7.

- \$971 (total present worth of conventional component of nonconventional technology system)
- $\$ 971 = 51\%$ (percentage of total present worth represented by conventional components; Note: more than 50%)
 $\frac{971}{1,911}$
- (1) $\$110 + \$753 = \$863$ (present worth of replaced components in the most cost-effective conventional system)
(2) $\$863 (1.15) = \$992.45$ (application of cost preference multiplier)
(3) $\$992.45 + \$971 = \$1,963$ (determination of cost ceiling)

Result: \$1,911 is less than \$1,963; therefore, proposed nonconventional technology system is considered cost effective and may be selected by grantee.

GRANT CALCULATION:

Capital costs of nonconventional technology components (85% grant)	
$\$31 + \$830 = \$861 (.85)$	\$ 731.85
Capital Costs of conventional components (75% grant)	
$\$873 (.75)$	\$ 654.75
Total Grant	\$1,386.60

APPENDIX F
FARMERS HOME ADMINISTRATION (FmHA)

APPENDIX F

FARMERS HOME ADMINISTRATION

The United States Department of Agriculture (USDA) is the Federal Government's lead agency for support of rural development. Most USDA programs to help finance the planning and building of better rural community facilities are administered through the Farmers Home Administration (FmHA). They represent the largest Federal source of community facility loans and grants specifically for rural needs.

FmHA financial assistance is available for original installation or improvement of waste disposal systems. Projects may be located in or serve towns of not more than 10,000 population and open countryside. FmHA regulations pertaining to the community facility programs are 7 CFR Part 1942, Subpart A and 7 CFR Part 1942, Subpart H.

The local share of an Environmental Protection Agency project plus the ineligible costs associated with that project may be financed by the FmHA. Applicants are encouraged to contact the FmHA as early in the project planning phase as possible.

Inquiry about applying for an FmHA loan or grant may be made at FmHA County, District or State Office. Office locations are listed in the "U.S. Government" section of telephone directories under "Department of Agriculture". Office locations can also be obtained by contacting the Farmers Home Administration, U.S. Department of Agriculture, Washington D.C. 20250.

APPENDIX G
SUPPLEMENTAL INFORMATION
FOR LAND ACQUISITION

APPENDIX G

SUPPLEMENTAL INFORMATION FOR LAND ACQUISITION

Applicable Regulations:

Any land acquired in conjunction with federally funded projects is subject to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646). EPA regulations implementing P.L. 91-646 are found in CFR Part 4. All appraisals setting the fair market value of land to be acquired must be consistent with "Uniform Appraisal Standards for Federal Land Acquisition" prepared by the Interagency Land Acquisition Conference and available through the Government Printing Office (GPO Stock Number 052-059-00002-01).

Costs in excess of just compensation (based on appraisals, your record of negotiations, or condemnation proceedings or determined by the Regional Administrator) are unallowable for grant assistance, therefore, you should obtain your reviewing agency's approval that the proposed purchase price represents just compensation for the property.

EPA regulations require you to record EPA's interest in real property acquired with construction grant funds, and to obtain approval to use the property for other purposes, and to request instructions from EPA on how to dispose of the property (40 CFR 30.535). The recorded title to the property should include the following language:

Federal Lien: Federal grant funds have been used to purchase this property. The United States interest is percent (depending on the Federal Share at the time of grant award) of the proceeds from any subsequent sale or current fair market value of the property (40 CFR 30.535). A lien to this effect and extent is thereby asserted.

The final payment request is not released until municipalities demonstrate that the recorded title documents include the above paragraph or equivalent language protecting the Federal interest (40 CFR 30.535).

Professional Land Acquisition Staff:

It is most advisable to have all land acquisition carried out by acquisition professionals with experience in working with the Federal requirements and eminent domain procedures. If the grantee does not have access to a professional land acquisition staff with experience in working with P.L. 91-646, arrangements should be made to consult or contract with outside professionals.

The Federal Highway Administration has right-of-way offices in each State's capital city and their staff can provide an overview of acquisition expertise within the State, including State professional and independent contractors as well as advice on a land acquisition plan. Each State has department of

transportation or right-of-way offices located in the capital city. Most of these State offices can provide acquisition assistance to the acquisition responsibility. Some States have other professional staff available, such as State parks or State general services administration. Some counties or nearby cities may also be able to provide professional assistance. Most Federal and State offices have lists of qualified appraisers whom they employ when they require additional appraisals for their projects.

Appraisals:

The grantees should make every effort to ensure that the appraiser has sufficient knowledge and experience in the type of appraisal problem to be solved and is thoroughly familiar with local conditions and property values. It is necessary to check credentials and experience of independent professionals thoroughly. The use of city, county, State, or Federal staff has the advantage that they have met the requirements of their job descriptions which increases the probability of getting qualified professionals.

There are professional appraisal organizations which sponsor training, publish guidance and information, require proof of attainment of expertise for certification or professional designation in the organization and monitor work performed by their members. Appraisers who are certified or designated members of these organizations are required to follow the organization's Code of Ethics and are subject to disciplinary actions and dismissal for failure to perform according to the standards of the organization. A list of appraisers for a given area can be obtained from the headquarters officers of each appraisal organization:

American Institute of Real Estate Appraisers
400 N. Michigan Avenue
Chicago, Illinois 60611

American Society of Appraisers
Post Office Box 17265
Washington, D.C. 20041

American Society of Farm Managers and Rural Appraisers
Post Office Box 6857
Denver, Colorado 80206

National Association of Independent Fee Appraisers
7501 Murdoch
St. Louis, Missouri 63119

Society of Real Estate Appraisers
645 North Michigan Avenue
Chicago, Illinois 60611

It is not desirable to select knowledgeable local appraisers who hold memberships in one or more of these organizations and can demonstrate expertise in the type of appraisal to be performed. For further information, contact the land acquisition coordinator in your EPA Regional Office.

Appraisal Review:

If the grantee does not employ or affiliate with an agency that employs qualified review appraisers on its staff, some other means of appraisal review by appropriately qualified individuals should be found. Various methods such as the use of independent fee appraisers (members of professional appraisal organizations) or qualified appraisal review personnel from county, State, or Federal agencies could be used. If the estimated fair market value of the land to be acquired is greater than \$100,000, two appraisals should be obtained. The reviewer would approve one of the appraisals or request additional appraisals.

Negotiation:

There should be no negotiation with the landowner prior to the establishment of an amount of just compensation following the appraisal of the real property and review of the price to be offered by the reviewing agency. The land owner or the landowner's designated representative must be given an opportunity to accompany the appraiser during the inspection of the property. Some limited or modest increase above the approved appraised value may be paid to avoid the cost, time, and public relations problems involved with condemnation if approved by the Regional Administrator. However, the grantee should be prepared to initiate eminent domain proceedings if the required land cannot readily be acquired for a reasonable price.

Options:

Options may be used to tie up land if purchase money is not readily available. Land can be optioned or purchased as soon as all environmental documents have been approved and the site has been determined to be suitable. However, approval must be obtained from the Regional Administrator to acquire grant-eligible land prior to Step 3 award. A satisfactory argument for early purchase can usually be based on an anticipated increase in land cost and on difficulty in obtaining assurances that the land will remain available.

Eminent Domain:

The grantee should determine whether it has eminent domain authority before proceeding with an alternative requiring land acquisition. The State attorney general's (AG) office can be consulted for this determination and may handle any required action.

The AG can also advise on time required to complete any condemnation action, whether the State has quick-take enabling legislation, whether the magnitude of the project or other considerations indicate that project-specific quick-take legislation should be considered and how complicated these procedures would be.

Relocation:

Title II of P.L. 91-646, Uniform Relocation Assistance, contains specific provisions regarding the Federal share for moving and related expenses, replacement housing payments, and relocation assistance advisory services. Title II

applies if a person is displaced as a result of a Federally assisted project (40 CFR 4.103, for the determination of displaced persons). The Federal and State offices previously discussed work with relocation under this Act and can provide necessary guidance. Relocation eligibility and payments should be determined by or in consultation with experienced relocation personnel. The grantee is expected to provide relocation assistance in a timely fashion in order to allow expeditious land acquisition.

Alternatives to Acquisition:

It is advisable to explore leasing or other arrangements for land application as alternatives to fee-simple acquisition. Some farmers may be willing to take effluent or sludge at nominal cost or no cost, or even provide payment for wastewater for irrigation.

Site Selection:

It is essential to complete all studies required to establish the suitability of the contemplated site before any acquisition actions are taken. If condemnation is anticipated, a court order may be required to complete these studies. If the city's attorney is not familiar with condemnation procedures, the State AG's office can usually provide advice or handle any required action.

Records:

Grantees should maintain all of the requisite land acquisition background information and documents in a readily accessible form.

APPENDIX H
WET WELL AND
DRY WELL CLASSIFICATION

APPENDIX H

PROCEDURE FOR THE ELIMINATION OR MINIMIZATION OF EXPLOSION RELATED PROBLEMS

The following guidance contains good engineering practices. Since it is not the intent of this guidance to modify or replace any appropriate safety requirements and regulations published by the Occupational Safety and Health Administration (OSHA) or the National Fire Protection Association (NFPA), it is recommended that the guidelines be used to supplement these and other appropriate safety requirements and codes.

I. Classification of Wet Wells and Dry Wells for Sewage Lift Stations

- A. Wet wells and dry wells for sewage lift stations should be classified in accordance with article 500 of the National Electric Code (NEC)* as found in NFPA publication 70. Classification is based principally on whether a flammable mixture may be present: (a) under normal operating conditions; or (b) only under abnormal operating conditions or equipment breakdown (including lifting of submersible equipment for inspection, maintenance or repair). The classification of wet wells and dry wells for sewage lift stations must be site specific and established by investigation of the conditions for each installation.
 - 1. Wet Wells: Wet wells should be classified on a case-by-case basis depending on design, type, and intended use. Guidance for classification of wet wells is presented in Figure I. The following definitions can be used in classifying wet wells:
 - (a) Wet Well: A wet well is a below ground structure designed to accept and temporarily store wastewater for the purpose of pumping. A wet well may or may not contain electrical equipment such as pumps, motors, wiring and wiring devices, controls, light and other accessories.
 - (b) High Hazard Wet Well: A wet well which can be expected to receive significant inflow of flammable liquids including all wet wells serving combined sewer systems or serving separate sewer systems that receive flow from industrial sources or those commercial sources such as paint or hardware stores which regularly handle large quantities of volatile or flammable liquids.

*All references to NEC found in this guidance means publication No. 70 - 1984 edition published by the National Fire Protection Association (NFPA)

- (c) Low Hazard Wet Well: A wet well not reasonably expected to receive significant inflow of flammable liquids. This includes wet wells serving separated sewer systems for primarily residential sources and/or those commercial sources not handling large quantities of volatile or flammable liquids.
- (d) Closed Wet Well: A wet well lacking natural or mechanical ventilation as defined below.
- (e) Naturally Ventilated Wet Well: A wet well built with at least one ventilator designed to effectively utilize wind pressure and/or thermal convection to remove gas from the wet well.
- (f) Mechanically Ventilated Wet Well: A wet well equipped with continuously or intermittent (time clock) operating mechanical ventilation (totally isolated from the dry well ventilation) providing at least 10 air changes per hour and equipped with failure alarm. Intermittent operations must have a minimum of four (4) operations per hour.

FIGURE I

WET WELL CLASSIFICATION

TYPE	WITHOUT VENTILATION*	NATURAL VENTILATION	MECHANICAL VENTILATION
High Hazard Wet Well	Class 1 - Division 1	Class 1 - Division 1	Class 1 - Division 2
Low Hazard	Class 1 - Division 1	Class 1 - Division 2	Class 1 - Division 2

* Not permitted in most States

2. All electrical equipment in the wet well should comply with Article 501 of the NEC for Class 1 - Division 1 or 2 locations as shown in Figure I. This includes pumps, motors, controls and control wiring, lights, power wiring and wiring devices and other accessories.

3. Submersible equipment used in wet well classified as Division 1 should be either explosion-proof or meet one of the four (4) conditions of Article 501-8(a) of the NEC. "Guaranteed Submergence" as interpreted, by EPA, from paragraph (4) of this Article means that under normal operating conditions the pumping equipment is a minimum of 6 inches below low water level at all times when the pump is operating. Double low water cut off switches should be used to provide additional safety in case of level switch failure. When "guaranteed submergence" is used, sensors to automatically de-energize the equipment when liquids falls below a set level should be used. Loss of submergence should, in addition to de-energizing the motor, generate an alarm similar to that used for high water level. The motor can be re-energized automatically when submergence is regained, but the alarm should require manual reset. When "guaranteed submergence" is used in place of explosion-proof, the pump should have double or tandem mechanical seals with outboard seal failure detectors. The motors should have terminal board connections which are isolated from the motor windings by a separate O-ring gasketed chamber or the splice caps should be completely encapsulated in epoxy. The motor should also have thermal sensors that limit the motor winding temperature in accordance with Section 500-2(b) of the NEC Code.

Additional maintenance may be required for installation utilizing "guaranteed submergence" because of solids accumulation which may occur in these wet wells. O&M manuals should address any additional requirements or procedures.

4. When oil filled submersible motors are used in Division 1 or 2 locations they should be equipped with thermal detectors designed to de-energize the equipment before internal motor temperature reach ignition levels. Over temperature should also generate an alarm similar to that used for high water level. The motor can be re-energized automatically when cooled, but the alarm should require manual reset.
5. Submersible equipment used in wet wells classified as Division 2 may be, but are not required to be explosion-proof. Motors may be squirrel cage induction motors which have no brushes, switching mechanisms or similar arc producing devices as described in Article 501-8(b) of the NEC code.
6. Flexible cords may be permitted in Division 1 or 2 locations for submersible pumping equipment designed for quick removal. The flexible cords should be classified for use with portable utilization equipment and should meet all the requirements of Article 501-11 of the NEC.

Flexible cords used with submersible pumps should be approved for extra-hard usage and should have an oil resistant outer jacket.

7. Grinder pumps, septic tank effluent pumps and other residential pumping units associated with onsite wastewater treatment or used to convey wastewater from individual dwelling units or clusters are exempt from these requirements and are not specifically covered by this guidance. However, the guidance may be used for onsite systems where applicable or in the absence of other state or local guidance or requirements.
 8. Non-sparking pumps and guide rail systems for submersable equipment are not required for Division 1 or 2 locations. When non-sparking guide rails systems are not used however, special precaution may be required during abnormal operating conditions. Wet well atmospheres should be tested for explosive mixtures and forced air ventilated, if necessary, before the pumping equipment is raised for inspection, maintenance or repair. Any wet well alarm signal should alert operating personnel of possible hazardous gas conditions.
 9. All wet wells classified as Division 1 locations should be marked "Danger-Hazardous Gases". Operations and maintenance manuals should indicate all wet well classified as Division 1 locations and should outline necessary normal and abnormal operating procedures.
- B. Dry Wells: Dry wells should be classified on a case-by-case basis depending on design, type and intended use. In general dry wells may be classified one class lower than the associated wet well. Guidance for classification of dry wells is presented in Figure II.
1. The following definitions shall be used in classifying dry wells:
 - (a) Dry Wells: A dry well is an above or below ground structure designed to house personnel, controls or equipment associated with pumping of wastewater. The dry well should have no openings such as hatches or doors, (except with gas tight seals or gaskets), unpacked pipe sleeves, untrapped drain pipes (unless equipped with ball valves or other dry environment or seal device) etc., by which vapor might be conveyed from the wet well. Dry wells should have no open surfaces of wastewater except such channels and sumps as are necessary to efficiently remove seal leakage, condensation and building drainage. A dry well may or may not contain electrical equipment such as pumps, motors, wiring, controls lights and associated wiring devices and other accessories.

- (b) **High Hazard Dry Well:** A drywell pumping water from a high hazard wet well using pumps not equipped with fresh water seal purging.
- (c) **Low Hazard Dry Well:** Any drywell pumping from a low hazard wet well or a dry well pumping from a high hazard wet well using pumps equipped with fresh water flushing of shaft packings or seals.
- (d) **Closed Dry Well:** A dry well lacking natural or mechanical ventilation as defined below.
- (e) **Naturally Ventilated Dry Well:** A dry well built with at least two widely separated ventilators designed to effectively utilize wind pressure and/or thermal convection to move air through the dry well.
- (f) **Mechanically Ventilated Dry Well:** A dry well equipped with continuously or intermittent (time clock) operating mechanical ventilation (totally isolated from the wet well ventilation) providing at least 5 air changes per hour and equipped with failure alarm similar to that provided for wet well high level alarm. Intermittent ventilator operations must have a minimum of four (4) operations per hour. The dry well must also have adequate drainage or sump pumping to remove the maximum expected leakage from the failure of the shaft seal or packing of any one pump.

FIGURE II

DRY WELL CLASSIFICATION

	WITHOUT VENTILATION*	NATURAL VENTILATION	MECHANIC VENTILATION
High Hazard Dry Well	Class 1 - Division 1	Class 1 - Division 2	Unclassified
Low Hazard Dry Well	Class 1 - Division 1	Unclassified	Unclassified

* Not Permitted in Most States.

Note: All dry well ventilation must comply with all OSHA requirements and all building and safety codes for personnel occupied working areas.

2. All electrical equipment in dry wells should comply with Article 501 of the NEC for Class 1 - Division 1, Division 2, or unclassified locations as shown in Figure II. This includes pumps, motors, controls and control wiring, lights, power wiring and wiring devices and other accessories.
 3. Pumping equipment used in dry wells classified as Division 1 should be either explosion-proof or meet one of the four (4) conditions of Article 501-8(a) of the NEC.
 4. Pumping equipment used in dry wells classified as Division 2 may be, but is not required to be explosion proof. Motors may be open enclosed motors, such as squirrel-cage induction motors without brushes, switching mechanisms or similar arc producing devices in accordance with Article 501-8(b) of the NEC. Other types of motors and controls may also be used in Division 2 locations as also described in this article.
 5. Flexible cords should not be used in dry wells classified as Division 1 or Division 2 except as specified by the NEC.
 6. Non-sparking pumps and accessories may be used, but are not required for Division 1 or Division 2 dry wells.
 7. In case of dry well ventilator failure alarm, the atmospheres should be tested for explosive mixture before entering the dry well and/or before any electrical equipment including non-explosion proof lights are energized. Continuous/volatile hydrocarbon analysers are recommended for all dry wells.
 8. O&M manuals should indicate all dry wells classified as Division 1 locations and should outline necessary normal and abnormal operating procedures.
- C. Explosion-Proof Equipment: Explosion-proof equipment means any equipment acceptable under the following conditions:
1. If it is accepted, or certified, or listed, or labeled, or otherwise determined to be safe by a nationally recognized testing laboratory, such as, but not limited to, Underwriters' Laboratories, Inc., and Factory Mutual Engineering Corporation, or

2. With respect to an installation or equipment of a kind which no nationally recognized testing laboratory accepts, certifies, lists, labels or determines to be safe, if it is inspected or tested by a Federal agency, or by a State, municipal, or other local authority responsible for enforcing occupational safety provisions of the NEC, or
3. With respect to custom-made equipment or related installations which are designed, fabricated for, and intended for use by, a particular customer, if it is determined to be safe for its intended use by its manufacturer on the basis of test data which the employer keeps and makes available for inspection to Federal, State and/or local authorities.

II. Classification For Other Pumping Equipment Installations

In general, pumping equipment and all other electrical devices installed in other areas of a wastewater treatment plant should be reviewed during the design phase in order to determine if any explosion hazards may exist. It is the responsibility of the designer to evaluate these spaces under the rules outlined in NFPA documents 70, 70C and 497 and API document RP500A for electrical equipment classification. Pumping installations where explosion hazards may exist and that can not be eliminated, should be equipped with continuous/volatile hydrocarbon analysers with appropriate alarms.

III. Explosion Hazards From Volatile Compounds

All sewer use ordinance should include a clause that prohibits the discharge of volatile or flammable compounds that may cause explosion hazards. Experience has demonstrated, however, that in spite of sewer use ordinances, illegal discharges or accidental spills occur. Therefore, specific contingency plans are encouraged for all pumping stations serving sewer systems where volatile compounds may be discharged accidentally or illegally.

APPENDIX I
CONSTRUCTION INCENTIVE CLAUSE

APPENDIX I

CONSTRUCTION INCENTIVE CLAUSE

THE EPA CONSTRUCTION GRANTS PROGRAM

I. Purpose

This clause defines a "construction incentive change proposal" (CICP) and establishes the policy and procedures for the application of CICPs in the construction grant process of the Environmental Protection Agency's (EPA) construction grants program.

II. CICP

- A. Definition: A CICP is a formally written proposal for a change order during the construction of a wastewater treatment project funded under the EPA construction grants program. A CICP must be initiated, developed, and identified as such by the contractor or subcontractor. A CICP must result in a gross capital saving of \$50,000 or more.

A CICP must result in a net capital cost reduction while causing no increase in the total life cycle cost of the project and meeting the following conditions.

1. The required function, reliability, and safety of the project will be maintained.
2. The proposed change will not result in any contract rebidding.
3. The proposed change must be in compliance with Section 204(a)(6) of the Federal Water Pollution Control Act Amendments of 1972 which prohibits proprietary and restrictive specifications for bids in connection with construction grant projects.
4. The proposed change will not cause undue interruption of the contract work.
5. The proposed change must be in compliance with local permits and regulations.

- B. Applicability: All contracts for the construction of wastewater treatment projects funded under the EPA construction grants program.

- C. Content: A CICP must contain pertinent information and supporting documents for evaluation by the involved contracting authority. As a minimum, the following information should be included.

1. Name of individuals associated with the development and preparation of the CICP.

2. A detailed description with duly signed plans and specifications of the present design and the proposed changes. Clear identification of any advantages and disadvantages for each change.
3. A detailed procedure and schedule for implementing the proposed change. This should include all necessary contract amendments and the latest date the CICIP must be approved for implementation.
4. A summary of estimated costs to include the following:
 - a. project construction costs before and after the CICIP. This should be a detailed estimate identifying the following items for each trade involved in the CICIP.
 1. quantities of materials and equipment
 2. unit prices of materials and equipment
 3. labor hours and rates for installation
 4. subcontractor and prime contractor mark-ups
 - b. operation and maintenance costs before and after the CICIP;
 - c. costs for implementing the CICIP not included in item 4a above;
 - d. contractor's share of the savings based on paragraph III below;
 - e. other data as required the construction grants regulations for change orders (40 CFR Part 33 and Part 35).
 - f. time required for executing the proposed change.

To the extent indicated below, contractors may restrict the EPA's and the project owner's use of any construction incentive change proposal or the supporting data submitted pursuant to this program. Suggested wording for inclusion in CICIPs is provided below:

"This data furnished pursuant to the construction incentive clause of contract _____ shall not be disclosed beyond that which is necessary to accomplish the review, or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate change proposals submitted under said clause. This restriction does not limit the Government's right to use information contained in this data if it is or has been obtained, or is otherwise available, from the contractor, or from another source, without limitations. If such a proposal is accepted by the owner under said contract after the use of this data in such an evaluation, the United States Environmental Protection Agency and the project owner shall have the right to duplicate, use, and disclose any data reasonably necessary to the full utilization of such proposal as accepted, in any manner and for any purpose whatsoever, and have others do also."

The grantee may, subject to approval by the State and EPA, modify, accept, or reject the CICP. However, if a CICP is modified or is not acted upon within the time frame specified in the CICP, the contractor may withdraw, in part or in whole, the CICP. In any event, the grantee will not be liable for the cost of developing the CICP withdrawn or rejected.

When a CICP is accepted by the grantee, the processing procedure for change orders should be used and approval of the CICP by the State and EPA is required. When a CIP is rejected, the contractor may not appeal to EPA.

III. Sharing Provisions

Construction Cost Sharing

Upon acceptance of a CICP, the contractor will share the net capital savings pursuant to this contract based on the formula below. Computation for the net savings is to be based on the following formula:

$$\text{Net capital savings} = (\text{Initial construction cost} - \text{revised construction cost}) - (\text{CICP development cost} + \text{CICP implementation cost})$$

The CICP implementation cost should include, when appropriate, consultant's fee for reviewing and redesigning the changes. However, costs for processing the CICP incurred by the grantee, State and EPA are excluded.

The contractor's cost for developing the CICP is limited to that directly associated with the preparation of the CICP package. When approved, such costs will be reimbursed to the contractor. However, any costs which cannot be satisfactorily substantiated will be rejected and will not be subject to reimbursement.

Sharing Formula

- a. When the total cumulative net savings based on the computation above is \$1 million or less, the contractor will receive 50 percent of the saving.
- b. When the total cumulative net savings exceed \$1 million, the contractor's share will be computed based on the following formula:

$$y = .2x + 300,000$$

where:

y = contractor's share in dollars

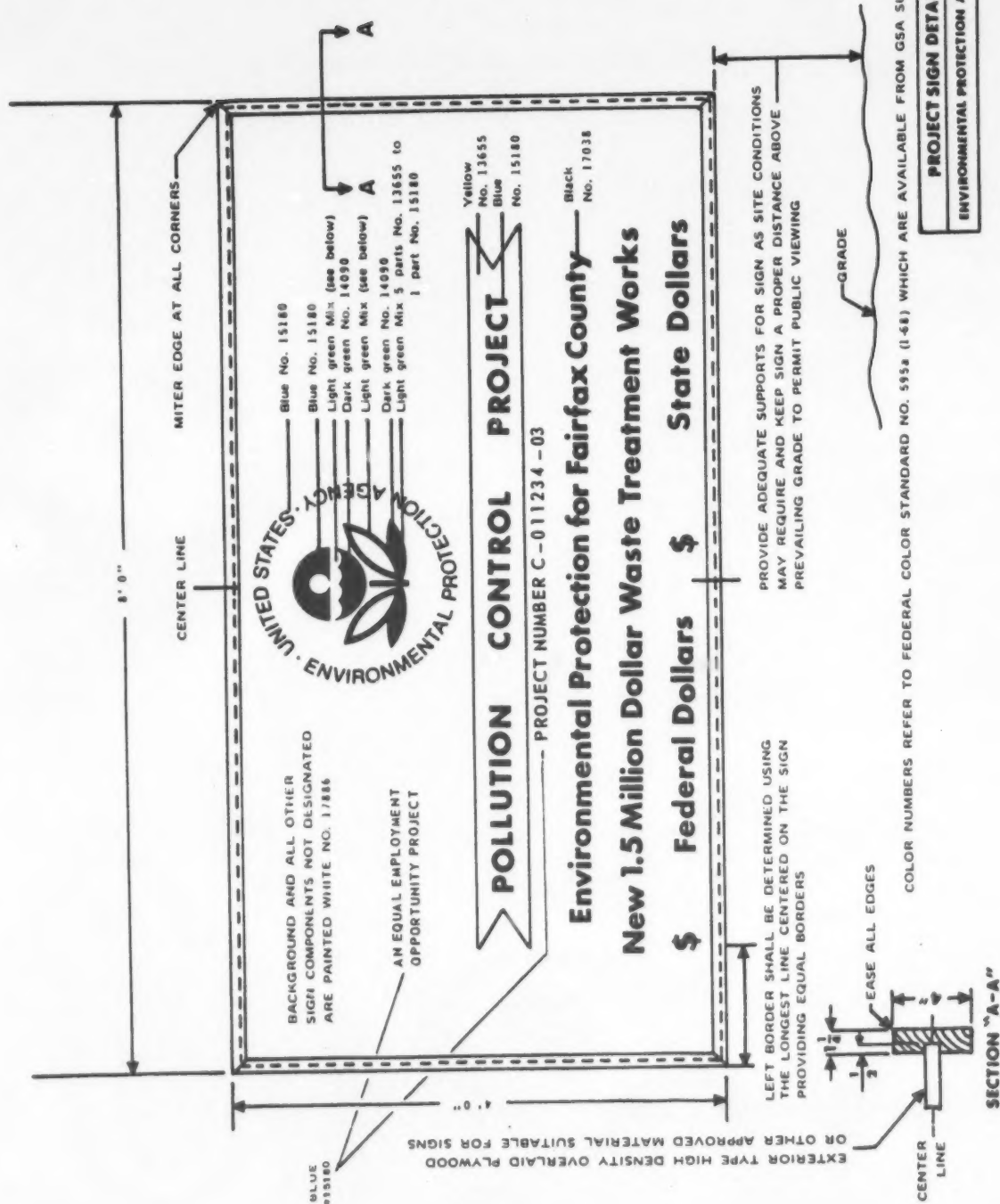
x = total net saving in dollars

For example, if the total net saving is \$3,572,000

$$y = .2(\$3,572,000) + 300,000 = \$1,014,400$$

APPENDIX J
EPA PROJECT SIGN

APPENDIX J



APPENDIX K
FINANCIAL AND MANAGEMENT
CAPABILITY INFORMATION SHEET

GUIDANCE FOR IMPLEMENTING THE POLICY
ON FINANCIAL AND MANAGEMENT CAPABILITY
FOR PUBLICLY OWNED WASTEWATER TREATMENT SYSTEMS

Introduction

The decision to construct a wastewater treatment facility represents a major financial commitment by a local government. Consequently, there is a need for each construction grant applicant to determine prior to actual construction whether the community and its residents have the financial and institutional capability to pay for and manage the proposed system. This need has been clearly recognized by the Policy on Financial and Management Capability for Publicly Owned Wastewater Treatment Systems. The Policy implements the financial capability demonstration requirement contained in the Clean Water Act and the revised construction grants regulations. The Policy sets forth a series of five questions that all grant applicants must answer in order to demonstrate their financial capability.

The Policy also outlines the responsibilities of the grant applicant, the States and the Regional Offices. In order to assist these three major participants in implementing the Policy effectively, several guidance documents have been developed and are now available. These documents include:

- o The Financial Capability Guidebook
- o The Financial Capability Summary Foldout
- o Suggested Screening System Elements
- o The Reviewer's Checklist
- o Analysis for Correcting High Cost Projects

These documents are described below following a summary of the Financial and Management Capability Policy itself. Copies of the Suggested Screening System Elements, the Reviewer's Checklist, and the Analysis for Correcting High Cost Projects is attached to this document (Attachments A, B and C, respectively). The Financial Capability Guidebook and Summary Foldout can be obtained from the EPA Regional Offices. Figure 1 illustrates the relationship of the guidance materials to the Policy.

Financial and Management Capability Policy

The policy on financial and management capability requires that grant applicants demonstrate their financial and management capability to construct, operate and maintain a wastewater treatment system before receiving construction grant assistance.

The financial capability analysis necessary to support the required demonstration must answer Five Basic Questions and the answers must be reviewed by the State before recommending grant assistance. The questions are:

- o What is proposed in the facilities plan?
- o What roles and responsibilities will local government have?

- o How much will the facilities cost at today's prices?
- o How will construction and operation of the facilities be financed?
- o What are the annual costs per household?

Although the demonstration may be presented in any format, a series of Wastewater Facilities Financial Information Sheets are presented with the Policy as an example of how the information required to demonstrate financial capability might be displayed. Other examples of formats which may be used include a financial plan, a separate chapter in the facilities plan, or procedures as prescribed by a delegated State, provided that the five basic questions contained in the Policy are adequately addressed.

In addition to providing answers to these questions, the applicant must consider the community's financial condition and must certify in writing that it has the necessary financial capability to construct, own and operate the treatment system. A sample letter of certification is attached to the Policy.

Applicants proposing to construct a facility to serve two or more jurisdictions must submit an executed intermunicipal service agreement that shows how costs will be allocated among the participating jurisdictions. This requirement may, however, be waived by the Regional Administrator or delegated State under certain circumstances.

Although all financial capability demonstrations should be reviewed using the Reviewer's Checklist, the level of detail required in the review by the State (or Region) depends on how likely the project is to have financial problems. The Policy requires that States develop screening procedures for identifying communities whose projects need greater attention due to their high cost, possible technological inappropriateness, or potential financial impacts. This "first cut" determination of a project's potential for being high cost is to be done using a simple screening system and should help State reviewers to focus their attention on the most critical projects. The Suggested Screening System Elements and the Reviewer's Checklist are described in greater detail later in this guidance.

For the financial capability policy to be effective, it is essential that problem projects be identified early enough during the planning and design phases to accommodate readily any necessary corrective actions. The need to consider financial and management capability early during the project development is required by the construction grants regulations which state that "the facilities plan will also demonstrate that the selected alternative is implementable from legal, institutional, financial and management standpoints."

Guidance Available to Assist in the Implementation of the Policy

The Financial Capability Guidebook

To assist grant applicants to answer the five questions contained in the Policy, EPA has prepared the Financial Capability Guidebook which is available from your State agency or EPA Regional Office. The Guidebook also provides a method to evaluate the community's financial condition. The Guidebook is structured around two basic information sheets: the Wastewater

Facilities Financial Information Sheet and a Supplemental Information Sheet. The Wastewater Facilities Financial Information Sheet provides a format that can be used to answer the five questions. This Information Sheet is optional and is attached to the Financial and Management Capability Policy. The Supplemental Information Sheet is provided to assist in evaluating the community's financial condition. Although it is not an EPA requirement to complete this Information Sheet, communities may find it useful in evaluating whether they could successfully finance the system or should investigate lower cost alternatives.

The Guidebook contains several worksheets that need to be completed in order to fill out the information sheets. Specific instructions are provided for completing each worksheet as well as suggestions and examples of how the necessary information may be obtained. To complete the worksheets, it may be necessary to have the assistance of the community's financial official and engineering consultant. The results of the analysis will not only prove invaluable to local municipal officials charged with the decision making responsibility for the project, but will also provide local taxpayers with sufficient information to allow them to express their opinions based upon factual information.

Financial Capability Summary Foldout

An abbreviated version of the Guidebook (The Financial Capability Summary Foldout) has been developed for use by communities who do not need detailed guidance for conducting the financial analysis necessary to answer the five questions required by the Policy and to consider the community's financial condition. The Summary Foldout is most suitable for situations where the current project represents a relatively small portion of the community's total system or where user costs are low enough that the proposed project will have little impact on the community. The Summary Foldout follows the same methodology as the full size Guidebook and includes a simple and brief introduction to the system of financial analysis used in the Guidebook.

Suggested Screening System Elements

A list of elements suggested for use in screening projects to determine which ones warrant intensive review is included in Attachment A. They are presented to help States to develop their own screening procedure based on local conditions. The procedure should be short, objective, and useable by staff without financial capability experience. The screening should take place early in the planning process and continue periodically through the review of the Step 3 grant application. If, at any time, the project should fail the screen, steps should be taken to initiate a detailed financial capability review of the project before it is allowed to proceed.

At the Step 3 grant application stage the project should be subjected to one last screening. If it passes, the Reviewer's Checklist should be used to simply verify that the community has answered the five Policy questions. If, however, the project fails the screen at this stage, a more intensive review of the project should be conducted. The Reviewer's Checklist is specifically applicable to this review. In these cases, the reviewer should use the Checklist as a systematic approach for thoroughly evaluating whether the

applicant has accurately answered the five policy questions and certified his financial capability to construct, own and operate the system. The reviewer should also make sure that those communities whose projects receive a more intensive review have adequately considered the community's financial condition.

Reviewer's Checklist

The Reviewer's Checklist (Attachment B) is intended to assist delegated States and Regions in assuring that construction grant applicants have adequately demonstrated their financial and management capability. Specifically, the Checklist can be used by State and Regional project engineers or others who have responsibility to review and evaluate an applicant's answers to the five questions which form the basis of the financial capability demonstration.

Format and Use: the Checklist is formulated around the five questions and also contains a question about the Letter of Certification required in the policy. The Checklist should be used to verify the applicant's demonstration and to evaluate more thoroughly those projects for which the applicant may not have the necessary financial and management capability.

Positive responses (i.e., "yes" answers are positive) to the questions in the Checklist generally indicate that the applicant may have the required financial and management capability. Negative responses should encourage the reviewer to take a closer look at the application.

In using the Checklist, reviewers should use judgement in weighing the relative importance of each question. Negative answers to many of the questions may indicate a potentially serious problem requiring further analysis and action. One or two negative responses related to less critical questions or marginal shortcomings may not require further analysis. In any case, the reviewer should use professional judgement and specific knowledge of the applicant's situation.

Since the applicant is not required by EPA to submit its demonstration (i.e., the answers to the five questions) in any specified format, the reviewer may need to consult other sources of information to complete the Checklist. Such sources include the facility plan, the environmental assessment or finding of no significant impact, a capital improvement plan or any available financial reports issued by the community or local financial institutions. These sources should be used to confirm questionable or inconsistent data or to fill information gaps in the applicant's submission. However, the reviewer should not do the applicant's analyses required for the demonstration. One of the primary purposes of the policy is to encourage communities to understand the financial impacts of their projects. Missing information in the demonstration may indicate that the community has not developed or reviewed the information and thus is unable to make informed decisions.

Reviewer's Findings: If the reviewer feels that the applicant has the financial capability, he should recommend grant award. If, however, after using the Reviewer's Checklist, the reviewer determines that the project may be high cost and impose too high a financial burden on the community, the following steps are suggested:

1. The community should be contacted and informed of the reviewer's findings. Important information should be confirmed and unclear areas questioned. Through discussions with the community and its engineers, the reviewer should satisfy himself that he understands the nature and extent of the problem and can identify the causes.
2. If the reviewer believes that the project is still high cost but 1) not so expensive that it will impose a burden beyond the resources of the community and 2) that the community is aware of the cost and willing to undertake the commitment, the reviewer should recommend the grant be awarded.
3. If, in the judgement of the reviewer the project is clearly too expensive for the community's resources, action should then be taken to modify the project such that the community can afford it. Any action which significantly changes the project or causes delays should be undertaken as a last resort. With limited grant funds available and intense competition for priority, projects which must be redesigned or changed significantly may run the risk of losing grant funding. Guidance to assist States and grantees to chart a course of action to correct a problem is contained in Analysis for Correcting High Cost Projects (Attachment C).

Analysis for Correcting High Cost Projects

The Reviewer's Checklist is useful for determining whether a particular project is a problem relative to the community's financial and management capability. The Checklist does not, however, identify corrective actions to take when a problem is discovered. In many cases the causes of the problems identified by the Reviewer's Checklist are obvious and lead directly to the appropriate action. The Analysis for Correcting High Cost Projects (Attachment C) was developed to assist in those cases where the appropriate action is not readily apparent.

ATTACHMENT A

Suggested Screening System Elements

It is the delegated States' responsibility to establish a screening system to identify projects that have a high probability of encountering financial difficulties. The projects identified by this screening system must receive very close scrutiny by State reviewers to ensure that communities have adequately considered the financial impact of proposed projects and that the communities have the capability to construct, own and operate the systems. If this more intensive review discloses that the project is financially sound, the State should recommend grant award. If, however, this review indicates that the community may encounter financial difficulties, the State should work with the community to explore less costly alternatives, seek additional funding from other sources, revise the financing or revise the scope of the project.

The screening system used by the State may be based on qualitative characteristics about the grant applicant or quantitative indicators about the project cost. Some suggested indicators are:

- o Size of Community - In general most high cost problems occur in smaller towns which have fewer resources, are less densely populated and consequently are unable to take advantage of economies of scale associated with larger wastewater systems. Thus, all projects for communities under a certain size (e.g., 10,000, 3,500 or another number devised by the State based on local experience) could be identified by the screen.
- o Extent of Sewers - Sewers often drive up the cost of otherwise sound projects. All projects installing sewers for the first time or projects with a high proportion of cost resulting from sewers should be looked at more closely.
- o Type of Technology Proposed - Projects with expensive and sophisticated operation and maintenance (O&M) requirements for relatively small communities should be identified for a more detailed investigation. Technologies such as activated sludge, physical-chemical treatment or any of a number of advanced treatment technologies for small communities tend to be operationally complex and costly.
- o Capital Cost Per Household - National figures indicate that new projects for which the total capital cost per household exceeds \$6,000 are generally high cost. The figure for communities with some existing sewer service is \$4,000. These figures are for total cost, exclusive of outside funding. States may want to use values based on their own local experience.
- o Total Annual Cost Per Household - On a national basis, projects tend to be high cost when the total annual cost per household exceeds \$250. States may want to change this figure based on reduced Federal share and on local economic conditions.

ATTACHMENT B

Reviewer's Checklist

I. What is proposed in the facility plan?

- o Is the project described in the grant consistent with the facilities plan and/or the FONSI?
- o If the project is for a community with population under 10,000^{1/}, is the selected alternative appropriate?^{2/}
- o Have the basic assumptions in the facility plan concerning either population growth or economic base remained the same or have they been updated?

II. What roles and responsibilities will local governments have?

- o If an Intergovernmental Service Agreement is required, has it been executed and is it current? Has the requirement been waived?
- o Does the agreement contain 1) the basis upon which costs are allocated, the formula by which costs are allocated and the manner in which the cost allocation system will be administered and 2) provisions for a cost-accounting system to assure auditability of regional operations and costs?
- o Has the applicant executed agreements for large users?
- o Has the management agency(ies) stated clearly the roles and responsibilities it will undertake in financing, constructing, operating and maintaining the proposed facilities?

III. How much will the facilities cost at today's prices?

- o Are the engineer's cost estimates complete and in current prices?
- o Does the cost estimate include all future projects including future segments or phases necessary to complete the wastewater treatment system?

^{1/} Experience indicates that problems associated with high cost project are generally confined to communities with populations under 10,000. Thus, the 10,000 population figure is a reasonable cut-off point for certain questions even though small communities are defined in the construction grant regulations as having less than a 3,500 population or dispersed portions of larger communities.

^{2/} Appropriate technology as used in the Checklist is the least cost system that the community has the means to build, operate and maintain and that provides adequate wastewater treatment.

- o Total Annual Cost Per Household as a Percentage of Median Income - National values previously used are:

1.0% if median income is less than \$10,000
 1.5% if median income is between \$10,000-\$17,000
 1.75% if median income is more than \$17,000

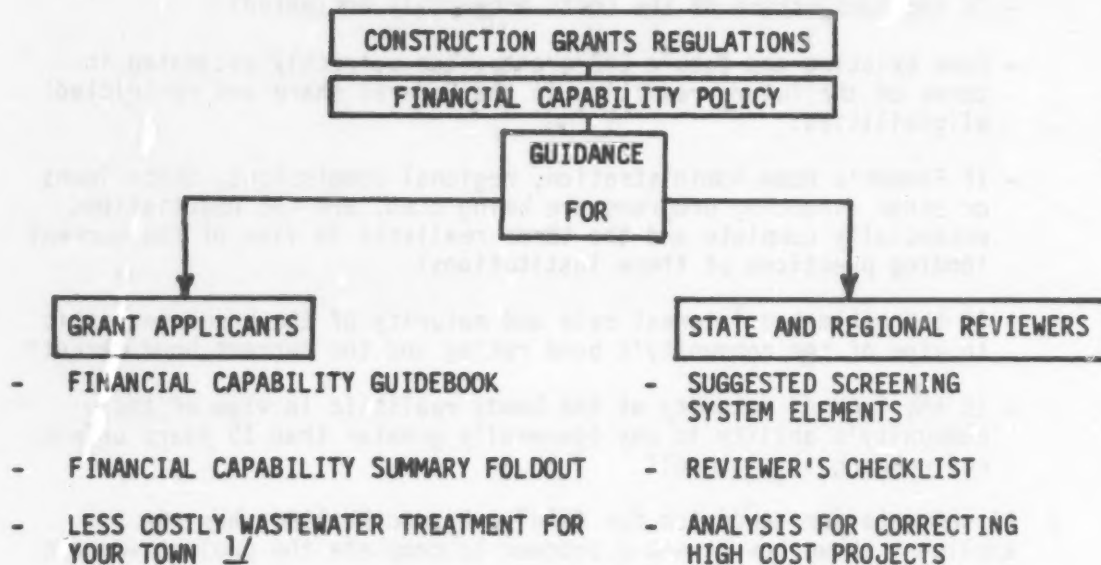
States are encouraged to develop figures better matched to local economic conditions. States may also want to expand this indicator and look at the financial impact of the project on low income users by looking at the cost as a percent of the bottom quartile of income or a certain range of income levels rather than the median income.

- o Capital Cost of Treatment Per 1000 Gallons Per Day of Capacity - When the cost of building a treatment facility exceeds \$3,000 per 1,000 gallons capacity, the technology proposed may be inappropriate.
- o Annual Operation, Maintenance and Replacement (O,M&R) Cost Per Household - When the O,M&R for a project exceeds \$100 per household, the treatment technology selected may be too complex for the community. Unlike capital cost, O,M&R will increase in the future as labor, materials and energy costs increase. If O,M&R costs are high initially, the system is starting at a disadvantage.
- o Size of Project Relative to Existing Facilities - If the increase in household cost of an upgrade or expansion is less than 20% of the existing household cost, the project may not need a more intensive review.
- o Reasonableness of Projected Population Growth - If the projected annual rate of growth is over two times the historical annual rate of growth based on available Federal or local census or other reliable sources, the project may need a more intensive review.

The State should develop a screening system as soon as possible using a combination of the above screening elements or any other the State feels will allow it to target its efforts at reviewing potentially high cost projects. The screen can be applied at appropriate review points (e.g., review of the FONSI, facility plan, or final design). The earlier a project is identified as high cost, the easier it is to correct.

Figure 1

Guidance Material for Implementing the Policy
on Financial and Management Capability
for Publicly Owned Wastewater Treatment Systems



^{1/} Available from the Facility Requirements Division (WH-595) USEPA
401 M Street, S.W., Washington, D.C. 20460

IV. How will the construction and operation of the facilities be financed?

- o Has the grant applicant presented a realistic plan for financing the local cost of the facilities?
 - Is the local share of the costs accurately estimated?
 - Have existing and future EPA grants been correctly estimated in terms of the future reduction in the Federal share and restricted eligibilities?
 - If Farmer's Home Administration, regional commissions, State loans or other financing programs are being used, are the negotiations essentially complete and the terms realistic in view of the current lending practices of these institutions?
 - Is the estimated interest rate and maturity of the bonds realistic in view of the community's bond rating and the current bond market?
 - Is the term of maturity of the bonds realistic in view of the community's ability to pay (generally greater than 15 years unless refinancing is planned)?
- o If segments are scheduled for funding beyond FY 1986, has the applicant shown how it would proceed to complete the project without Federal construction grant funds?
- o Will revenues provided by the initial customers be sufficient to cover the cost of operation, maintenance, replacement and debt service?

V. What is the annual cost per household?

- o What will be the total system annual cost per household based on the current number of users in the service area? \$_____/year.
- o What is the current annual cost per household? \$_____/year.
- o Has the estimated total annual cost per household including one-time fees been presented to the community?

Letter of Certification

- o Has the letter of certification as required by the policy been signed by the applicant?

ATTACHMENT C

Analysis for Correcting High Cost Projects

Once a State (or Regional) reviewer determines that a project is beyond the financial and/or managerial capability of the grantee, it will be necessary to modify the alternative or the financing arrangements and develop another alternative that is financially sound. Below is a list of specific actions which have been taken in the past to correct problem projects.

I. Restructure Financing

- Extend bond life:

By extending the term of a bond issue, the yearly payments will be reduced. In general, bonds should be issued for as long as possible commensurate with the expected actual life of the project.

- Pursue other funding sources:

In addition to grants available from EPA, the Departments of Agriculture and Housing and Urban Development and other Federal agencies may have funds available for constructing wastewater treatment systems.

- Reduce high up-front costs:

If the initial hook-up or connection costs are too high they can be reduced by several methods. One would be to include them in the bond issue which amortizes their cost over the life of the bond. House laterals, for example, which are normally the users' responsibility, may be financed through the authority's bonds. Payments can then be included on the user's sewer bill. (Generally, a lien is placed on the property until the "loan" is paid.) Other methods for reducing high up-front costs include use of short term, no or low interest loans from local banks or local authorities; and extended pay off as part of user charges.

- Use innovative financing:

Through the use of innovative financing methods, the cost of financing the local share may be reduced significantly. There are various financing programs available in States to assist in financing wastewater treatment facilities. The following methods should be investigated to determine if they are available in your State.

- o revolving loan programs administered by the State (initial seed money obtained through State appropriation or sale of bonds)
- o State backing of local bonds to reduce the interest rate (also called credit enhancement)

- o State bond bank - where a State issues one bond to cover many local projects
- o issuance of small (e.g., \$500) tax exempt bonds for local purchase
- o use of "double-barreled bonds" or "quasi revenue bonds" which assist the grantee to obtain better bond terms or to use State (or county) bonding authority to overcome local limits on interest rates or total indebtedness.
- o dedicated sales, mineral severance, special assessments, excise taxes, and lottery receipts for paying local share of capital costs
- o use of contract operations, singly or in conjunction with neighboring jurisdictions.

Information on innovative financing of wastewater treatment systems is available. See "Creative Capital Financing: A Primer for State and Local Governments"; Government Financial Associates, Inc. New York and "Creative Capital Financing for State and Local Governments"; Government Finance Research Center, 1983 Chicago.

II. Reduce Complexity and other Unnecessary Expenditures

- Share support facilities and operations with neighboring jurisdictions

Sharing of personnel, labs, maintenance equipment and supplies can overcome the costly problems of idle staff, no discount small volume purchasing and partially utilized facilities. Sharing in the early stages in the life of a facility that will grow in the future can reduce cost to the initial users.

- Scrutinize the design for cost saving measures

Many designs for small community projects reflect design standards and safeguards that were developed for larger systems. By eliminating items from design that are not essential to operation or safety, significant cost savings may be realized. Examples include: replace two lane surface roads with gravel roads wherever possible; use block instead of brick construction; use post and chain instead of hand rails in non-hazardous areas. (See Facility Requirements Division Information on North Carolina's Value Determination Program for a more complete discussion of cost saving design measures.)

III. Reduce Scope of Project

- Eliminate unnecessary sewerage through sparsely populated areas

Extending sewers to outlying areas which surround a developed core is expensive. Rehabilitating or constructing of alternative onsite systems in remote areas may reduce costs.

- Reduce facility size and stage construction

Sizing pipe or treatment plants for future growth may be too costly for present users. Costs may be lowered by reducing plant size and providing for future growth by means of staging or other methods. Cost to current users can be reduced if construction is done in stages corresponding to projected need and/or anticipated revenues. If projected growth demand does not materialize or is slow, staging will reduce the burden to current users. Also in some cases, inadequate hydraulic flow caused by overdesign may increase unit operation, maintenance and replacement costs.

- Critically evaluate water quality aspects.

IV. Make Sure That All Feasible Alternatives were Adequately Considered in the Cost-Effectiveness Analysis

For a variety of reasons the selected alternative may not be the most cost-effective at the time of construction. If corrective measures in categories I, II and III above have not reduced costs enough to make the project financially sound, new alternatives should be considered. The foremost alternative should be reconstruction and rehabilitation of existing facilities, especially onsite systems. Existing facilities should be abandoned only as a last resort. Sand filters or other processes available to treat septic tank effluent should be considered. Other alternatives include:

- Alternative sewers (pressure, small diameter gravity)
- Cluster Systems
- Trickling Filters
- Lagoons
- Sand Filters
- Overland Flow
- Oxidation Ditches or other low load aeration technologies

These technologies have proven to be less expensive particularly for small communities. Often these technologies were not considered in the original cost-effectiveness analysis or, if considered, inaccurate or outdated construction and O,M&R cost data may have been used.

federal register

**Friday
February 17, 1984**

Part IV

Environmental Protection Agency

**40 CFR Part 35
Financial and Management Capability for
Construction, Operations and
Maintenance of Publicly Owned
Wastewater Treatment Systems; Final
Policy**

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 35

[WH-FRL-2267-5]

Financial and Management Capability for Construction, Operation and Maintenance of Publicly Owned Wastewater Treatment Systems

AGENCY: Environmental Protection Agency.

ACTION: Notice of final policy.

SUMMARY: This notice sets forth Agency policy and procedures to ensure that construction grants applicants demonstrate their financial and management capability to construct, operate, and maintain (including equipment replacement) a wastewater treatment system. The policy describes the statutory and regulatory requirements for applicants to demonstrate that they have answered five questions concerning the total costs of the proposed treatment system, how it will be financed, the total annual costs per household, and the roles and responsibilities of local governments involved. The demonstration must also include a written certification by applicants that they have analyzed the costs and financial impacts of the proposed facilities and that they have the necessary financial and management capability to complete and successfully operate the treatment system. The purpose of the policy is to interpret more fully the relevant provisions of the final construction grants regulations and the Clean Water Act, as amended, in order to protect adequately the Federal investment in the construction of publicly owned treatment systems.

EFFECTIVE/EXPIRATION DATE: This policy will apply to any applications received in EPA Regional Offices after publication of this notice in the *Federal Register*. It will expire on September 30, 1988.

FOR FURTHER INFORMATION CONTACT: Keith Dearth, Environmental Protection Agency, WH-595, 401 M Street, SW., Washington, D.C. 20460, (202) 382-7226.

SUPPLEMENTARY INFORMATION: Under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.*, the information provisions in this notice have been submitted to the Office of Management and Budget (OMB), and will become effective upon OMB approval. A notice of that approval will be published in the *Federal Register*.

Dated: December 13, 1983.

Jack E. Ravan,
Assistant Administrator for Water.

The authority for this action is found in section 204(b)(1) of the Clean Water Act, as amended.

Financial and Management Capability for Construction and Operation of Publicly Owned Treatment Systems

I. Statement of Policy

It is the policy of the Environmental Protection Agency (EPA) that no grant shall be awarded for the construction of a publicly owned treatment works (POTW) unless the applicant has demonstrated substantively to the satisfaction of the delegated State (or EPA for non-delegated States) that it has the legal, institutional, managerial, and financial capability to ensure construction, operation and maintenance (including equipment replacement) of the proposed treatment system.

II. Effective/Expiration Date

This policy will apply to any applications received in EPA Regional Offices after publication of this notice in the *Federal Register*. It will expire on September 30, 1988.

III. Background

The purpose of this policy is to interpret more fully the relevant provisions of the revised construction grants regulations and the Clean Water Act, as amended, in order to protect adequately the Federal investment in the construction of publicly owned treatment works. It draws together various statutory and regulatory provisions pertaining to the local financing and management of Federally funded POTWs.

Authority

The authority for this policy on financial capability is found in the Clean Water Act (CWA), as amended, as well as the revised construction grants regulations. Specifically, each applicant is required to demonstrate its financial capability prior to award of a Step 3 or 2+3 grant (40 CFR 35.2104); and the Administrator is required to determine whether the applicant has, in fact, shown sufficient evidence that it has the legal, institutional, managerial, and financial capability to ensure adequate construction, operation and maintenance of the proposed treatment system (section 204(b)(1)).

Discussion

The decision to construct a wastewater treatment facility represents a major financial commitment by a local government. Consequently, there is a need for each applicant to determine whether the community and its residents have the financial and institutional capability to pay for and manage the

proposed system prior to actual construction.

This need has been clearly recognized in the Clean Water Act, which requires that, before awarding a grant, the Administrator must be satisfied that a grantee has the adequate legal, institutional, managerial, and financial capability to complete and maintain the proposed wastewater system. This was further strengthened with the 1981 Amendments, which state that the Administrator should encourage and assist all applicants for grant assistance to develop a capital financing plan. The clear intent, therefore, is that all applicants need to assess adequately the financial impact of the proposed facility on the community and its users, and to disclose how the system will be financed and managed following construction.

IV. Application

This policy will apply to all applicants for a Step 3 or 2+3 grant award under the Amendments to Title II of the Clean Water Act and the revised construction grants regulations.

V. Implementation

At the time of application for a Step 3 or 2+3 grant award, an applicant must demonstrate that it has the legal, institutional, managerial, and financial capability to construct, operate, and maintain the proposed facility. To do so, the applicant must answer the following questions:

1. What is proposed in the facilities plan?
2. What roles and responsibilities will local governments have?
3. How much will the facilities cost at today's prices?
4. How will construction, operation and maintenance of the facilities be financed?
5. What are the annual costs per household?

Attachment A¹ provides a format that the applicant may use to respond to the above questions.

The applicant must also submit, along with the Step 3 or 2+3 application, written certification that it has analyzed the costs and financial impacts of the proposed facilities and that it has the capability to finance and manage the construction and operation of the facilities in accordance with the

¹ Attachment A has been provided as an example of how the information required to demonstrate financial capability might be displayed. The grant applicant may use any format he chooses to meet the requirement, including, as examples, a financial plan, a separate chapter in the facilities plan, or procedures as prescribed by a delegated State, provided that the information required is adequately addressed. A publication entitled

Continued

construction grants regulations. Before signing the certification the applicant must consider the responses to the questions above as well as the community's financial condition. The certification should be signed by an elected official or chief financial officer for the municipality authorized to commit funding. An example certification letter is provided in Attachment B.

An applicant proposing to construct a wastewater treatment facility designed to serve two or more public agencies or jurisdictions must show how the costs will be allocated among the participating jurisdictions or agencies. Such applicants must provide an executed intermunicipal service agreement which, at a minimum, incorporates the following information: the basis upon which costs are allocated; ² the formula by which costs are allocated; and the manner in which the cost allocation system will be administered. Executed intermunicipal service agreements are to be submitted with a Step 3 grant application or before initiation of procurement action for building the project for Step 2+3 grants. This requirement may be waived by the Regional Administrator or the delegated State if the applicant can demonstrate: that such an agreement is already in place, or that there is evidence of a service relationship in the absence of formal agreement, and that the supplier agency exhibits sufficient financial strength to continue the project if one or more of the customer agencies fails to participate (40 CFR 35.2107).

The intermunicipal service agreement serves as the legal, contractual basis for implementation of the wastewater treatment system, and guarantees future commitments. Although it will guard against renegeing or unilateral actions by participants, it should also serve as a basis for a sound working relationship. Its institutional provisions should provide for a management framework, and should assign roles and responsibilities for management and operation of the system.

Financial Capability Guidebook is available to assist communities in completing Attachment A or in developing comparable information.

²The regional cost basis consists of facilities (including equipment, sewage treatment facilities, and interceptors, etc.) and services (administrative, managerial, legal, etc.) which are to be shared by two or more jurisdictions and are, therefore, eligible for regional cost allocation. An auditable cost accounting system is usually maintained by the supplier agency; it defines the regional cost basis and is included in service agreements. Attachment C provides elements to consider in determining regional cost basis, and is excerpted from "Financial Planning for Wastewater Facilities: A Guide for Wyoming Local Officials" (Part 3).

In implementing this policy, States, EPA Regions, and EPA Headquarters have the following responsibilities:

- *All States:* In order to account for unique aspects of State laws governing local financing and institutional arrangements, all States are encouraged to develop specific guidance and procedures for communities to use to demonstrate their financial capability. Attachment A may be used as the basis for this guidance, and may be modified according to individual State needs.

- *Delegated States:* At the time of transmittal of a Step 3 or 2+3 grant application, a delegated State must indicate that it has reviewed the financial information provided by the applicant, and has determined that the applicant has adequately demonstrated its financial capability, and, as appropriate, has provided an executed intermunicipal agreement. Delegated States may waive the requirement for an executed intermunicipal agreement on the basis of the criteria cited above.

The criteria for approving the financial capability portion of a grant application are listed below ("Regional Offices"). States should use the reviewer's checklist guidance provided by EPA or develop comparable guidance for applying these criteria to financial capability demonstrations.

Delegated States must also develop screening procedures for identifying communities whose projects need greater attention to satisfy the requirements of this policy. These projects could be identified on the basis of their high cost, technological appropriateness or potential financial impact. A combination of several of the following criteria should be used for this purpose: size of the community, extent of sewers (for presently unsewered communities), type of technology proposed, total capital costs per household, total annual household costs, total annual cost per household as a percentage of median income, capital cost of treatment per 1000 gpd capacity, or other meaningful indicators.

Delegated States should conduct a more intensive review of projects identified by these procedures and should not certify grant applications for these projects unless the State is completely satisfied that the community and its users can successfully finance and manage the wastewater treatment system. If this intensive review discloses that the project may not be financially sound, the State should provide assistance to the applicant to resolve the problem. This assistance should include both the technical aspects of projects (e.g., appropriate technology

and project scope and staging) and the necessary financial arrangements (e.g., other sources of funding and alternative methods for financing the local share.) Screening procedures should be applied as early as is feasible during the development of a project so that problems can be resolved prior to the actual grant application.

- *Nondelegated States:* Nondelegated States are encouraged to meet with communities to review local financial capability, as well as the overall feasibility of implementing proposed projects from financial and institutional aspects.

- *Regional Offices:* In the case of non-delegated States, the EPA Regional Office will review the applications as outlined under "Delegated States."

The RA or delegated State representative may approve an application if all other regulatory requirements are met and if, in his or her judgment, the applicant has adequately demonstrated financial capability by submission of financial information consistent with relevant information in the facility plan; appropriate assumptions regarding population projections, cost estimates, or eligible costs; appropriate analysis of the community's proposed financing system, and the financial impacts of the proposed system on its users; and submission of an executed intermunicipal service agreement if there are two or more participating jurisdictions, except as prescribed above.

If approval is withheld, the RA or delegated State representative will notify the applicant of the reason(s) and will work with the applicant to resolve any identified problems or deficiencies.

- *Headquarters:* EPA Headquarters will provide guidance and technical assistance to Regions and to States to carry out the intent of this policy.

VI. Overview

Each fiscal year, the EPA Regions and States develop an overview program consistent with the section 205(g) regulation. These overview programs should provide for the Region's review of all guidance and procedures used by delegated States to implement this policy, as well as a random sample of financial capability demonstrations that have been accepted by the State. The overview program should provide for the Region's review of financial capability demonstrations for specific, selected projects that warrant special attention or are determined to be of overriding Federal interest consistent with the section 205(g) regulation.

BILLING CODE 5560-50-M

Attachment A (to Policy Statement)

Wastewater Facilities Financial Information Sheet

Applicant

Name _____

Address _____

City _____ Zip _____

Contact _____

Telephone _____

(This is provided for optional use by the grantee community, or its A-E consultant, as an aid to conventional Facility planning financial analysis. EPA developed this improved and simplified form with the Municipal Financial Officers Assn., based on feedback on earlier versions, which have been used successfully by consultants for projects in Texas, North Carolina, Tennessee, and Pennsylvania.)

(Information to complete this sheet should be contained in the Facility Plan.)

Additional assistance in completing the Financial Information Sheet can be found in the Financial Capability Guidebook which is available from the US Department of Commerce, National Technical Information Service (NTIS) 5285 Port Royal Road Springfield, VA 22161

(This Sheet and the Guidebook will also be provided to grant applicants (to assist in facility planning) by EPA Regions & delegated States in the application package.)

What Is Proposed In The Facilities Plan? (Information should be in Facility Plan.)

- The proposed facilities will be:
(check more than one if applicable)

☐ New☐ An expansion☐ An upgrade

- If treatment facilities are proposed, do they feature low O+M Cost Technology such as ponds, trickling filters, overland flow? If yes, please identify.

☐ Yes☐ No

- The facilities will serve:

☐ Existing Population on Sewers☐ Existing Area Served by On-Site Systems☐ Existing Industries☐ Anticipated Growth

Indicate the approximate percentage of the plant's capacity that will be allocated to each.

_____ %

_____ %

_____ %

_____ %

- Entities to be served:

☐ County☐ Municipality☐ Sewer district☐ Industry

- Design population

(Year _____)

THIS IS A SAMPLE FORMAT

Wastewater Facilities Financial Information Sheet

What Roles And Responsibilities Will Local Governments Have? (Information in Facility Plan.)

Cooperative arrangements between various entities may be required to meet the management needs of wastewater treatment facilities.

- What agency will:
 - ☐ Own the facilities
 - ☐ Operate
 - ☐ Finance
- Will there be financial contributions by:
 - ☐ Other agencies
 - ☐ Industry
- Have participating agencies been asked to review:
 - ☐ Wastewater facilities plan
 - ☐ Population projections
 - ☐ Service area boundaries
- Have agreements been sought between the operating agency and:
 - ☐ Participating agencies
 - ☐ Other agencies
 - ☐ Industry

How Much Will The Facilities Cost At Today's Prices? (Information in Facility Plan.)

The following figures are estimated costs for construction, operation, and maintenance of the proposed facilities. Dollar amounts are uninflated and reflect today's prices.

A. Construction costs estimate

- Wastewater treatment plant _____
- Pump stations _____
- Interceptor sewers _____
- Collection sewers _____
- On-site systems _____
- Land acquisition _____
- Other _____
- Total construction costs _____

B. Estimated annual operation, maintenance, and replacement (O,M + R) costs for the proposed facilities

- Labor _____ per year
- Utilities _____ per year
- Materials _____ per year
- Outside services _____ per year
- Misc. expenses _____ per year
- Equipment replacement _____ per year
- Total operation, maintenance and replacement costs _____ per year

How Will The Facilities Be Financed? (Information in Facility Plan.)

A. Amount to be borrowed

- Grantee share of construction costs _____
- Construction-related costs _____
- Grantee contributions _____
- Amount to be borrowed _____

B. Methods of financing the amount to be borrowed

Financing method	Amount borrowed	Interest rate	Term of maturity	Annual debt service payment
General obligation bond				
Revenue bond				
Loan				
Total				

C. Total estimated annual wastewater facilities costs

- Net existing O,M + R _____
- Existing annual debt service _____
- O,M + R for proposed facilities _____
- Debt service for proposed facilities _____
- Total estimated annual wastewater facilities costs _____

D. Sources of funding for total annual wastewater facilities costs

- Sewer service charges _____
- Surcharge _____
- Special assessments and fees
 - connection fee _____
 - betterment assessments _____
 - other _____
- Transfers from other funds _____
- Other _____
- Total funding _____

THIS IS A SAMPLE FORMAT

Wastewater Facilities Financial Information Sheet

What Are The Annual Costs Per Household? (Information in Facility Plan)

- | | |
|--|--|
| • Total estimated annual wastewater facilities charges _____ | • Total annual costs per household _____ |
| • Nonresidential share of total annual charges _____ | |
| • Residential share of total annual charges _____ | |
| • Number of households _____ | |
| • Annual costs per household for | |
| — wastewater collection and treatment _____ | |
| — other _____ | |

Certification of Financial Capability

Your community must certify that it has the capability to finance and manage the proposed facility.

The answers to the preceding questions will provide useful information regarding the cost of the proposed facility, how it will be financed, and what this means in terms of costs to the typical household user. In order to evaluate effectively the true impact of the proposed treatment system, however, this information must be viewed within the overall context of the community's financial condition, financial resources, legal constraints, and local public policy.

Listed below are additional elements relating to a community's overall financial condition and its ability to pay the local costs of constructing and operating the treatment system. These factors should be considered before signing the financial and management capability certification.

- reasonableness of population projections relative to historic trends (if new population growth is needed to help finance the proposed system.)
- total current outstanding indebtedness
- state finance laws and legal debt limits
- historical trends in your community's revenue sources (e.g., changes in taxable assessed property valuation with respect to population)
- current bond rating and its historical trend

If your community would have difficulty financing the proposed project, it should consider alternative methods of financing to mitigate the adverse impacts, re-evaluate the project alternative and scope, or consider staging implementation to spread out financing to future users. When certifying your project, the community should be fully satisfied that both the users and the community as a whole have the capability to finance and manage the facility as proposed.

ATTACHMENT B

EXAMPLE - CERTIFICATION LETTER

Mr. John Brown
Any City
Any State

(Regional Administrator if
applicant is in non-delegated
State)

Dear Mr. Brown:

I hereby certify that we have analyzed the local share of the costs of the proposed wastewater treatment facilities, including their financial impact on this community and the residents of the service area. As a result of these analyses, I have found that we have the legal, institutional, managerial and financial capability to ensure adequate construction, operation and maintenance, and replacement of the wastewater treatment works.

Sincerely yours,

Honorable Joseph Stevens
Mayor of (name of City)
(City), State 00000

THIS IS A SAMPLE FORMAT

(FR Doc. 84-4074 Filed 3-16-84; 8:45 am)
BILLING CODE 6800-00-C

ATTACHMENT C

BASIS FOR IDENTIFICATION OF REGIONAL COST



Source: Regional Planning for Wastewater Facilities & Costs in Wastewater Local Officials' Report 1, Regional Planning for Wastewater Facilities & Costs, Wastewater, and Environmental Services, (Planning Department of Environmental Health), page 16.

APPENDIX L
1981 AMENDMENTS TO THE
CLEAN WATER ACT

APPENDIX L

1981 AMENDMENTS TO THE CLEAN WATER ACT

Analysis of sections of the 1981 amendments as related to EPA's Municipal Construction Grants Program:

Section 1

Short Title

"Municipal Wastewater Treatment Construction Grant Amendments of 1981," P.L. 97-117, enacted December 29, 1981

Section 2

Eligible Categories

After October 1, 1984, grants only for secondary or more stringent treatment, or any cost effective alternative thereto, new interceptors and appurtenances and infiltration/inflow corrections, except

Governor of a state may elect to use not more than 20 percent of a state's allotment to fund other types of projects previously eligible.

Section 3

Grants for Steps 1 and 2

After December 29, 1981, no grants solely for facilities planning and design (formerly Step 1 and Step 2).

Grants for construction (Step 3) shall include an allowance for facilities planning and design based on the percentage of total project costs which EPA determines is the general experience for such projects.

Each state shall use a portion of its funds, not to exceed 10 percent, to advance funds to potential grant applicants for facilities planning and design; advances are for small communities which in the judgement of the state would be unable to complete an application (i.e., facilities plan and design) without such advance; the allowance in a subsequent grant will be reduced by the amount of the advance; if no subsequent grant, state to seek repayment of advance under terms and conditions it may determine.

Section 6

Capital Financing

Grant applicants are encouraged to develop a capital financing plan which:

addresses future wastewater treatment requirements over at least 10 years,

projects the nature, extent, timing, and cost of the future requirements,

sets forth the manner for financing these needs.

Section 7

Federal Share

After October 1, 1984, all grants are reduced to 55 percent, except subsequent segments of projects receiving a Step 3 grant before October 1, 1984, will receive 75 percent for all phases of such facilities, interceptors and infiltration/inflow correction projects.

Section 8

Innovative and Alternative Processes

I or A grant funding to be additional 20 percent but in no case exceed 85 percent.

Reserve for I or A to be minimum of 4 percent and maximum of 7-1/2 percent of annual state's allotment of which 1/2 percent must be used for innovative projects.

Extends the I and A program through FY 14.

Allows field testing of I or A processes or techniques as a grant eligible cost.

Section 9

Combined Step 2 and 3 Grants

Raises the dollar ceiling for combined Step 2+3 projects to \$8,000,000.

Section 10

Reserve Capacity

After October 1, 1984, grant only for capacity needs on date of grant award and in no case exceed needs on October 1, 1990; grantees to pay incremental cost of additional reserve capacity except:

Subsequent segments of projects receiving a Step 3 grant before October 1, 1984 shall be based on a 20-year reserve capacity and subsequent segments of interceptors receiving a Step 3 grant before December 29, 1981 shall include reserve capacity not to exceed 40 years.

Industrial cost exclusion is eliminated.

Section 11

Brand Name

When in grantee's judgement it is impractical or uneconomical to describe technical requirements for equipment, a brand name or equal may be used and grantee need not establish the existence of any other source.

Section 12

Engineering Performance

Engineering services shall continue for one year after completion of construction and include supervision of operation, training of operating personnel, and preparing training materials and curriculum for operating personnel, all of which are allowable for grant participation. After one year grantee must certify whether or not the treatment works meets the design specifications and effluent limitations.

If treatment works does not meet performance, it must be corrected in a timely manner at other than Federal expense.

Section 14

State Administration Grants

State may use up to 4 percent of the State's allotment based on the amount authorized to be appropriated or \$400,000, whichever is greater, to administer the Construction Grants Program.

Section 15

Water Quality Management Planning

State shall use up to 1 percent of the State's allotment or \$100,000, whichever is greater, to carry out water quality management planning.

Section 17

Authorization

Authorizes \$2.4 billion for FY 1982-85 for the Construction Grants Program.

Section 18

Water Quality Priority

Projects which receive priority are those projects which, in the estimation of the State, are designed to achieve optimum water quality management consistent with public health and water quality goals and requirements of the CWA.

Section 19

Cost Effectiveness

Reemphasizes that projects receiving grants shall be the "most economical and cost-effective combination of devices and systems . . ." for waste treatment over the life of the project.

Requires value engineering prior to grant award for all projects which exceed \$10 million and which have not received a grant prior to December 29, 1981.

Section 20

State Certification

States with sufficient delegated authority to administer the Construction Grants Program may certify projects to EPA and EPA has 45 days to approve or disapprove the project. If EPA does not act, the project is deemed approved.

Section 21

Municipal Compliance Deadline

Municipal compliance to achieve secondary or more stringent treatment necessary to achieve water quality standards is extended from July 1, 1983, to July 1, 1988, for those cases which have not been able to move ahead due to limited Federal grant assistance.

Section 22

Ocean Discharge

Application for ocean discharges waiver extended for one year from December 29, 1981, through new applications cannot be approved for one year. No permit shall allow discharge of sludge into marine waters.

Section 23

Secondary Treatment Definition

Biological treatment facilities such as oxidation ponds, lagoons and ditches, and trickling filters shall be deemed to be the equivalent of secondary treatment.

Section 24

Revised Water Quality Standards

States to review, revised or promulgate new water quality standards by December 29, 1984, or no grants may be awarded.

Section 25

Needs Survey

EPA to prepare new needs survey by December 31, 1982.

Section 26

Judicial Note

Where consent decrees have been established by the courts, the courts are to take note of the reduced funding levels and make appropriate adjustments if necessary in schedules.

APPENDIX M
40 CFR PART 35
FINAL REGULATIONS

federal register

**Friday
February 17, 1984**

Part III

Environmental Protection Agency

40 CFR Part 35

**Grants for Construction of Treatment
Works; Final and Interim Rule**

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 35

[WH-FRL 2267-5]

Grants for Construction of Treatment Works

AGENCY: Environmental Protection Agency.

ACTION: Final and interim final rules.

SUMMARY: The construction grants regulation is being published in two places in today's *Federal Register*. This portion includes, as a final rule, the main body of the construction grant regulation (§ 35.2000 et seq.), Appendix B (Allowance for Facilities Planning and Design), and Appendix C (Subpart I Information Collection Requirements).

Appendix A (Determinations of Allowable Costs), published together with this final rule, is a *revised* interim final rule which responds to some of the comments received on the May 12, 1982 publication of Appendix A. These comments are described below under Description of Major Issues. EPA is publishing Appendix A as a revised *interim final rule* for two main reasons. First, the Congressional authorization for the construction grants program expires after fiscal year 1985 (September 30, 1985). In anticipation of reauthorization hearings on the Clean Water Act in 1984, the Agency is conducting a one-year study of the funding of municipal wastewater facilities. The study will evaluate a broad range of funding mechanisms such as loan programs, privatization and infrastructure banks in addition to the present grants program. The common goals which will be used to compare these alternatives are greater self-sufficiency of local communities in addressing wastewater treatment, more efficient targeting of Federal financial assistance, and quicker attainment of water quality goals. We expect to publish a notice of the study in the *Federal Register* in February. The results of the study may result in changes to the allowable costs described in Appendix A. Second, the proposed rule (§ 35.2205) is expected to elicit comments which may extend to allowable cost items in Appendix A.

A proposed rule published elsewhere in today's *Federal Register*, would create a new section (§ 35.2205) that would define the maximum increase in the allowable cost of a grant award. The new section would apply to all construction grants regardless of the grant award date.

This regulation includes only those items called for by the Clean Water Act, including the Municipal Wastewater Treatment Construction Grant Amendments of 1981, and the minimum requirements necessary for effective program management. The changes clarify and simplify the regulation and thereby reduce project costs.

DATES: This regulation is effective February 17, 1984. See also the section in the preamble on "Effective Date." Comments on the interim final regulation contained in Appendix A, must be received on or before April 17, 1984.

ADDRESS: Comments should be addressed to: Central Docket Section (LE131), Attention: Docket No. C-81-5, Environmental Protection Agency, Washington, D.C. 20460.

The public may inspect the comments received on this interim final rule at: Central Docket Section, Gallery 1 West Tower Lobby, Environmental Protection Agency, 401 M Street, SW., Washington, D.C., between 8 a.m. and 4 p.m., business days.

FOR FURTHER INFORMATION CONTACT: William Kramer, Office of Water Program Operations (WH-595), Environmental Protection Agency, Washington, D.C. 20460, (202) 382-7277.

SUPPLEMENTARY INFORMATION: In keeping with the President's mandate to reduce the burden of government regulation, EPA has undertaken a comprehensive review of the construction grants regulation. Based on that review, revisions to the regulation were proposed in the November 6, 1981 *Federal Register* and published as interim final on May 12, 1982. The interim rule reflected extensive experience with the program, comments received over the years from a broad spectrum of the program's constituents and comments received on the interim rule. In developing this regulation, the Agency consulted with a wide variety of organizations representing various participants in the program.

On December 28, 1981, the Municipal Wastewater Treatment Construction Grant Amendments of 1981, Pub. L. 97-117 (1981 amendments), were signed into law, making several basic modifications to the grants program. This regulation, which is built on the Administration's commitment to reduce regulatory burdens to a minimum while maintaining the program's environmental and financial integrity, incorporates provisions to implement the 1981 amendments and comments on the interim rule.

This regulation includes items required by statute—free of detailed

procedures to be followed—and those additional minimum requirements that EPA considers necessary for effective program management.

In conjunction with this effort to reduce regulatory requirements to a minimum, EPA will issue appropriate guidance documents. These guidance documents will not be regulations in disguise. The regulatory requirements are repeated in the guidance solely for continuity and clarity. If there appears to be a difference between the regulations and the guidance, the regulations govern. The guidance materials will contain information which is helpful to States and grantees in managing and carrying out the construction grants program. Use of the information in the guidance documents is to be discretionary. That is, States or grantees may adopt other procedures which are sufficient to meet the requirements of this regulation.

The first major guidance document, *Facilities Planning 81 (FP 81)*, was published in 1981. Its successor, *Construction Grants 82 (CG 82)*, companion to the interim final regulation, reflects and includes this new emphasis on increased flexibility in its guidance for planning/design, and building. Future editions in the CG series will continue this approach. Other guidance publications in the areas of operation and maintenance, financial planning and development of user charge systems are being developed. By linking efforts to reduce mandatory requirements and to provide guidance, the greatest possible flexibility is provided to States and local governments to effectively carry out the construction grants program.

Although this subpart is the primary regulation governing the construction grants program, it is not the only one. Others that apply include EPA's Uniform Relocation Assistance and Real Property Acquisition Policies Act regulation (Part 4), NEPA regulation (Part 6), public participation regulation (Part 25), intergovernmental review regulation (Part 29), general grant regulation (Part 30), debarment and suspension regulation (Part 32), procurement regulation (Part 33), and pretreatment regulation (Part 403). Rather than repeat verbatim selected portions of these Parts, this regulation will rely on the others and, where appropriate, cross reference those requirements. It is felt that this is a simpler approach and, more helpful to the States and grantees. Requirements of these other Parts still apply to the construction grants program.

Following is a table showing the relationship of Subpart I to Subpart E:

CONSTRUCTION GRANT REGULATION—40 CFR
PART 35

Subpart I		Subpart E
Sec.		Sec.
35.2000	Purpose and policy	35.900, 35.901, 35.903, and 35.912.
35.2005	Definitions	35.905.
35.2010	Allotment; reallocation	35.910 et seq.
35.2015	State priority system and project priority list	35.915.
35.2020	Reserves	35.915-1.
35.2021	Reallocation of reserves	35.915.
35.2025	Water quality management planning	1981 Amendments.
35.2034	Combined sewer overflows	1981 Amendments.
35.2035	Allowance and advance of allowances	1981 Amendments.
35.2036	Facilities planning	35.917 et seq.
35.2032	Innovative and alternative technologies	35.908.
35.2034	Privately owned individual systems	35.918.
35.2040	Grant application	35.920 et seq.
35.2042	Review of grant applications	1981 Amendments.
35.2050	Effect of approval or certification of documents	35.925-1.
35.2100	Limitations on award	35.925.
35.2101	Advanced treatment	New Section.
35.2102	Water quality management plans	35.925-2.
35.2103	Priority determination	35.925-3.
35.2104	Funding and other considerations	35.925-5.
35.2105	Debarment and suspension	New Section.
35.2106	Plan of operation	35.925-12.
35.2107	Intermunicipal service agreements	35.925-3.
35.2108	Phased or segmented treatment works	New Section.
35.2109	Step 2+3	35.906.
35.2110	Access to individual systems	35.918-1.
35.2111	Revised water quality standards	1981 Amendments.
35.2112	Marine discharge waiver applicants	1981 Amendments.
35.2113	Environmental review	35.925-5.
35.2114	Value engineering	1981 Amendments.
35.2116	Collection system	35.925-13.
35.2118	Freeword costs	35.925-18.
35.2120	Infiltration/inflow	35.927 et seq.
35.2122	Approval of user charge system and proposed sewer use ordinance	35.925-1, 35.935-13, and 35.927-4.
35.2123	Reserve capacity	1981 Amendments.
35.2125	Treatment of wastewater from industrial users	35.925-15.
35.2127	Federal facilities	35.925-15.
35.2130	Sewer use ordinance	35.927-4.
35.2140	User charge system	35.925-1.
35.2152	Federal share	35.930-4.
35.2200	Grant conditions	35.935 et seq.
35.2202	Step 2+3 projects	35.935-4.
35.2204	Project changes	35.935-11.
35.2206	Operation and maintenance	35.935-12.
35.2208	Adoption of sewer use ordinance and user charge system	35.935-4.
35.2210	Land acquisition	New Section.
35.2211	Field testing for innovative and alternative technology report	1981 Amendments.
35.2212	Project initiation	35.935-8.
35.2214	Grantee responsibilities	35.935-1.

CONSTRUCTION GRANT REGULATION—40 CFR
PART 35—Continued

Subpart I		Subpart E
35.2216	Notice of final completion and final inspection	35.935-14.
35.2218	Project performance	1981 Amendments.
35.2250	Determination of allowable costs	35.940.
35.2250	Advance purchase of eligible land	New Section.
35.2262	Funding of field testing	1981 Amendments.
35.2300	Grant payments	35.945.
35.2350	Subgrant enforcement	35.970.
Appendix A	Determination of allowable costs	35.940 et seq.
Appendix B	Allowance for facilities planning and design	1981 Amendments.
Appendix C	Subpart I information collection requirements	New Section.

Description of Major Issues

In response to the interim final regulation published on May 12, 1982, we received comments from a variety of States, municipalities, professional organizations, firms that work in the program, and industries. Although the preamble doesn't respond to every comment individually, all were considered and many served as the basis for revisions to the interim final regulation.

Effective Date

This regulation is effective for all grants awarded on or after the date of publication in the Federal Register. Facilities plans and design initiated under 40 CFR Subpart E continue to be subject to the requirements in Subpart E. Unless required by the 1981 amendments, no revisions to the facilities plan or design will be required. Work done under Subpart E will be accepted for grant awards under this subpart.

Elsewhere in this issue of the Federal Register, EPA is proposing a new section, § 35.2205, which would specify a maximum allowable project cost.

Program Direction: Improved Water Quality

The 1981 amendments stress the importance of improving water quality through the construction grants program. The regulation reflects this emphasis in several ways. It incorporates the concept of "priority water quality areas," which States will identify and use in setting priorities for projects. Revised regulations for water quality management planning (40 CFR Part 130) and water quality standards (40 CFR Part 131), and guidance for State preparation of section 305(b) reports will

also use the concept of priority water quality areas for scheduling revisions to water quality standards, total daily maximum loads, and major permits, as well as focusing monitoring, enforcement and reporting efforts on critical water quality problems. Priority water quality areas will generally be water quality limited segments, i.e., segments where applicable water quality standards are not attainable with application of technology-based effluent limitations to point sources.

This term was introduced in the interim final regulations; however, the concept is not new. For the purposes of construction grant funding and this regulation, priority water quality areas are specific stream segments or bodies of water where municipal discharges have resulted in the impairment of a designated use or significant public health risks, and where the reduction of pollution from the municipal discharges will substantially restore surface or groundwater uses.

The regulation (§ 35.2111) includes a limitation stating that no grant assistance can be awarded for particular stream segments after December 28, 1984, if a State has failed to review and revise, as appropriate, its applicable water quality standards. To comply with this provision, States will need to review and revise the water quality standards for each stream segment within the State in priority order. In setting priorities for the review of water quality standards States should focus on priority water quality areas, considering the timing of pending advanced treatment and combined sewer overflow funding decisions. The necessary level of review will depend upon the characteristics of a segment and the priority that a State assigns a segment. For most effluent limited segments no further water quality standards reviews will be needed beyond the determination that the segment is indeed effluent limited. A more comprehensive review will be needed for segments designated as water quality limited. Regulations governing priority setting and the review and revision of water quality standards are found in the regulations for water quality standards (40 CFR Part 131).

Within this context for setting priorities, the regulation requires an annual project priority list with two sections: the fundable portion consists of those projects anticipated to be funded from the current allotment; and the planning portion consists of projects anticipated to be funded from future authorized allotments. After September 30, 1982, Regional Administrators will

not fund projects until they accept, and the States use, priority lists that reflect the 1981 amendments.

The 1981 amendments added section 205(j) to the Act which requires States to reserve not less than \$100,000 nor more than 1 percent of their annual allotment for water quality management planning. The regulation provides an exception to the \$100,000 minimum for Guam, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands and the Commonwealth of the Northern Mariana Islands because of the small size of their allotments.

The 1 percent ceiling is a maximum limit rather than a required limit. The language of the amendments states that the reserve is "not to exceed" 1 percent. Also, the "not to exceed" language is identical to the language of the 205(g) reserve for State administration which provides for an optional maximum percentage rather than a required percentage. 40 CFR Part 130 will govern the use of funds reserved under section 205(j).

This regulation in § 35.2106 also addresses the need to make EPA funded treatment works phases and segments operate to improve water quality. Several commenters interpreted the regulation to require in all cases that grant recipients build the complete waste treatment system, including even its lowest priority components, if grant assistance were awarded for any part of the system. We made minor modifications to the regulation to address this misunderstanding.

Section 35.2106 requires that all recipients of grants for a phase or segment of treatment works negotiate a commitment with the Regional Administrator that assures that the treatment works of which the phase or segment is a part will be made operational and meet the enforceable requirements of the Act. Section 35.2106 embodies a longstanding EPA policy previously contained in § 35.930-4. The policy is that grant recipients must commit to making EPA funded phases or segments operational and comply with the enforceable requirements of the Act and to making them part of treatment works that result in water quality improvements. This does not necessarily require recipients to commit to building all parts of a complete waste treatment system. However, the regulation does require that recipients commit to building the treatment works necessary to make EPA funded phases or segments contribute to improved water quality.

Priority System and List

There was some confusion over the due date for submission of revised

annual lists to the Regional Administrator for review. We have revised § 35.2015(e) to clarify that each State must submit a new list by August 31 in order to allow time for review by the Regional Administrator prior to the beginning of the next fiscal year.

Activities Prior to Grant Award

One of the most significant changes in the program resulting from the 1981 amendments is the elimination of grants for planning (Step 1) and design (Step 2). An allowance is provided to grantees for facilities planning and design. A full discussion of issues related to the allowance is in the Appendix B section of this preamble.

Step 2+3

We received several comments recommending that the design portion of a Step 2+3 grant be a grant rather than an allowance. We believe the allowance is more consistent with the Congressional intent of the 1981 amendments to reduce EPA involvement in grantees' design activities.

The 1981 amendments raised the limit on building cost for projects eligible for a Step 2+3 grant to \$8 million. The amount of the allowance will be based on the estimated Step 3 building cost in the Step 2+3 grant application. If the grantee has not received a grant or advance for facilities planning, the Agency will pay 30 percent of the Federal share of the estimated allowance as soon as requested after the Step 2+3 grant award. EPA will pay half the remaining estimated allowance when the design is 50 percent complete. The final portion of the allowance will be paid after the grantee awards all prime subagreements for building the project.

Advances

The 1981 amendments require States to reserve a portion up to 10 percent of their allotments to provide advances of the allowance to small communities which would otherwise be unable to undertake planning and design activities. Although the amendments do not prescribe a minimum amount, the Agency believes the Congress intended that a reasonable reserve be established. Designation of eligible applicants to receive an advance will be done entirely by the States.

Upon application by a State, a grant will be awarded to the State for making advances of allowance to small communities. A State may request that payments under the grant be assigned to specified potential grant applicants. Any community that has received an advance will have any later allowance

reduced by an amount equal to the advance.

Some commenters were concerned that the States would not reserve adequate funds to meet the demand of small communities; others were concerned that States would unjustifiably lose funds through reallocation because there would not be a need or demand for them. The Agency recognizes the potential for problems related to this provision of the law, and believes that solutions can be found to those individual problems within the framework provided by the regulation. In particular, the regulation provides for waiving this reserve requirement when the State can demonstrate it is not necessary because planning and design requiring an advance is not expected to begin during the period of availability of the annual allotment. Some States, prior to the 1981 amendments, had built up a backlog of projects ready for Step 3 grants and had planned to initiate few if any new Step 1 or Step 2 projects. Further, States have available the Step 2+3 approach which, if used extensively, could reduce or eliminate the need for this reserve.

NEPA Compliance

Before publication of the interim final regulation there was great concern expressed that the elimination of grants for planning and design would make NEPA compliance ineffective, because for NEPA compliance to be most effective, environmental issues must be addressed in conjunction with planning the project, and traditionally that has been done during Step 1. The elimination of Step 1 and Step 2 grants postpones official EPA involvement in the project until after planning and design are complete. To avoid the design of environmentally unsound alternatives, the regulation encourages applicants to confer with review agencies very early in the process and request, in writing, that EPA make necessary NEPA determinations. In this way, NEPA responsibilities can be met at the appropriate time, avoiding delay and added expense that could result from postponement. In any case, the regulation requires that the environmental review under NEPA be completed before submission of an application.

Grantees currently in the facilities planning process with Step 1 grant assistance are bound by existing regulations and grant agreements to complete their environmental documents as planned and obtain a formal determination in accordance with Part 6 of this chapter.

Financial Capability

In 1981 amendments stress the importance of the applicant's financial and management capability to adequately build, operate and maintain the proposed project, particularly the ability to finance adequate operations and maintenance (including replacement) of facilities through their user charge systems. Three of the "limitations on awards" (conditions that must be met before a grant can be awarded) are designed to ensure adequate financial capability and management of Federally funded treatment works. First, the applicant is required to demonstrate that it has the legal, institutional, managerial, and financial capability to ensure adequate building and operation and maintenance of the treatment works. Second, the draft plan of operation, required at the time of application, must include "an adequate budget identifying the basis for determining the annual operation and maintenance costs and the costs of personnel, material, energy and administration." Third, the applicant must have the Regional Administrator's approval of a user charge system that will produce adequate revenues required for operation and maintenance (including replacement), and that contains an adequate financial management system that will accurately account for revenues generated by the system and expenditures for operation and maintenance (including replacement) of the treatment system. EPA has developed guidance to assist grantees in meeting these requirements.

Advanced Treatment Reviews

In March 1979 Congress directed EPA to review advanced treatment projects. The 1978 oversight and appropriation hearings focused on the high costs and often marginal benefits of advanced treatment projects. In action approving the FY 1979 appropriation for the construction grants program, the House and Senate Appropriations Conference Committee agree "that grant funds may be used for construction of new facilities providing treatment greater than secondary only if the incremental cost of the advanced treatment is \$1 million or less, or if the Administrator personally determines that advanced treatment is required and will definitely result in significant water quality and public health improvements." The incremental dollar limit for the Administrator's review was raised from \$1 million to \$3 million in FY 1980. Each year's appropriation legislation or committee report has continued the review requirements.

Review procedures were set forth in EPA policy issued in March 1979. EPA published a revised draft policy in June 1980, and a final policy is nearing publication.

Section 35.2101 requires that before award of grant assistance, EPA review under the advanced treatment policy any project requiring advanced treatment. EPA recommends that the proposed advanced treatment projects be submitted for review upon completion of facility planning, but requires that the review be completed before submission of any application.

Innovative and Alternative (I/A) Technology

The 1981 amendments extend the innovative and alternative program by providing an I/A set-aside to increase grants for I/A projects. The regulation allows the Governor to reserve amounts from the annual allotment which range from a minimum of 4 percent up to 7½ percent. The Federal share of grants for I/A technologies will be 20 percent more than the Federal share for grants for conventional technologies as long as the Federal share totals no more than 85 percent. The regulation also includes provisions for field testing for verification of design parameters for higher risk technologies which EPA may fund either as a preaward cost or as a separate field testing grant. Upon completion of the field test, the grantee must submit a report containing the procedure, cost, results and conclusions of the test.

The 1981 amendments maintain the cost-effectiveness preference for the I/A program. Several commenters were confused by the provision which describes the applicability of the cost-effectiveness preference when the I/A components are less than 100 percent of the present worth cost of project. Section 35.2032(b) has been clarified to indicate that when the I/A components are 50 percent or less of the present worth cost of the treatment works, the cost-effectiveness preference applies only to the I/A components.

EPA is incorporating the innovative and alternative technology guidelines from Appendix E of the 1978 regulation into the CG series.

Infiltration/Inflow

The interim final regulations simplified the procedure for determining whether a treatment works is subject to excessive infiltration and inflow (I/I). The procedures previously specified in the regulation were not only time consuming and costly, but also produced inaccurate and misleading results in many instances. The net effect was that

considerable effort was spent analyzing and repairing sewer systems without achieving the expected benefits of reduced flows and properly sized facilities.

The revised procedures incorporated in the interim final regulation specified baseline values for both infiltration and inflow. Comparison of the guideline values with actual flows in sewer systems allows rapid screening of those systems not subject to excessive I/I. This final regulation continues the use of a baseline for comparison of infiltration rates but deletes the baseline value previously specified for inflow.

The baseline figure of 120 gallons per capita per day (gpcd) for infiltration analysis is unchanged in the final regulation. The figure derived from Needs Survey data for 270 Standard Metropolitan Statistical Area cities. The 120 gpcd value is the national average wastewater flow for these cities and is comprised of 70 gpcd domestic wastewater and 50 gpcd of non-excessive infiltration.

The baseline figure for inflow was deleted because sufficient data were not available to support its uniform application to all projects. In the final regulation, inflow is excessive when it results in chronic operational problems in the treatment system.

The final regulation provides that no further I/I work is required if domestic wastewater plus non-excessive infiltration does not exceed 120 gpcd, and there are no chronic operational problems resulting from hydraulic overloading of the treatment works during storm events. Furthermore, even in cases where infiltration marginally exceeds 120 gpcd, the grantee may proceed with design and construction of facilities to accommodate the entire flow provided that such facilities are cost effective. In these cases, Federal grant participation will be based on 120 gpcd and grantees must demonstrate that sufficient local funds are available to construct and operate the entire treatment works.

Only in cases where infiltration is determined to be excessive in accordance with the previously described procedures or the treatment works is experiencing chronic operational problems due to inflow, will grantees be required to undertake more detailed sewer system evaluation studies and propose an I/I rehabilitation program. A limited amount of grant assisted sewer rehabilitation may also be undertaken on systems with flow less than 120 gpcd provided that grantees can demonstrate that such

rehabilitation is cost effective for specific portions of their systems.

Grantees will be responsible for the results achieved by I/I rehabilitation programs conducted using Federal funds as part of their certification of project performance at the end of the first year's operation of the facility. Grantees will also be responsible for taking corrective actions if flows are not reduced by the amounts specified or operational problems are not corrected as a result of the rehabilitation program.

Public Participation

Several commenters expressed concern that, with the exception of the requirement for public hearings in conjunction with developing State priority systems and project priority lists, the proposed regulation relies on Part 25 to supply all further requirements necessary to involve the public fully in decisions relating to the construction grants program. EPA is fully committed to public participation in all its programs and believes that Part 25 affords every opportunity necessary and available under the Clean Water Act for public participation in the construction grants program.

However, because the elimination of Step 1 and 2 grants effectively prohibits EPA involvement in facilities planning and design, neither provisions of this subpart nor of Part 25 apply to activities of a potential grantee prior to submission of the grant application. Grantees who request an early determination of NEPA compliance can take advantage of involving the public in Step 1 and Step 2 through application of public participation requirements of Part 6. Furthermore, this regulation requires the State to certify at the time of application that there has been adequate public participation in accordance with State and local laws.

Project Schedule

The regulation requires that a timetable of key project events be included in the grant application. The advice of the grantee's design engineer should be sought when developing the schedule. The schedule should include important dates regarding procurement actions, building schedule, and operation of the project. If the grantee has multiple projects, he must coordinate each project's schedule with the others and with the State's project priority list. Any change in the project schedule will require a formal grant amendment. This requirement is necessary to insure the continued coordination of project completion with permit and compliance schedules, court orders and State administrative orders.

State Certification

The 1981 amendments allow States with sufficient delegated program administration authority to certify that grant applications comply with all applicable Federal requirements. The certification must be supported by documentation specified in the delegation agreement, and the Regional Administrator shall accept the certification unless he determines the State has failed to establish adequate grounds for the certification or that an applicable requirement has not been met. Several commenters pointed out the failure of the interim final regulation to state the provision of the 1981 amendments mandating EPA to accept or reject in writing a fully certified application within 45 days of receipt or the application is automatically approved. That oversight has been corrected.

Treatment of Wastewater From Industrial Users

This section of the interim final regulation that dealt with treatment of wastewater from industrial users was intended to continue the Agency policy of not providing grant assistance for treatment works that are exclusively for industrial use. In stating that policy, we used the term "compatible industrial wastewater" and defined it in terms that could have been interpreted to prohibit funding POTW capacity to serve many industrial users. It was not the Agency's intention to place a new restriction on funding for treatment works serving industries. To correct that problem, we eliminated the term "compatible industrial wastewater" and added a new provision. Section 35.2125 prohibits award of grants for treatment works that are exclusively for industrial use. It is similar to a provision proposed in the May 18, 1981 *Federal Register* (46 FR 27314). Several commenters objected to the continuation of the Agency policy not to fund projects exclusively for industrial use. We believe that expanding eligibility to a substantial new category of industrial projects would be contrary to the overall intent of the 1981 amendments.

Project Performance

The purpose of EPA assistance is to build treatment works that have been planned and designed to meet the enforceable requirements of the Act. By executing a grant agreement, the grantee is obligated to build the project according to its approved design specifications and operate and maintain the project during its design life to meet the enforceable requirements of the Act.

The regulation requires the grantee to reach this performance goal within a year after the project has been put into use for its intended purpose. The costs of architectural, engineering, legal, technical and other services necessary to assure that the project is built according to its design drawings and specifications are allowable project costs.

The date of initiation of operation is determined by the grantee, in consultation with the design engineer and included in the project schedule. To assist in operating the project during the first full year, the amendments require the grantee to procure the services of the engineer or firm that provided architect engineering services during construction or the engineer or firm that supervised construction. The regulation uses the term "construction" to clarify congressional intent and makes this provision consistent with the language in the Act. The amendments state that such engineer shall "supervise operation of the treatment works, train operating personnel, and prepare curricula and training material for operating personnel."

EPA uses the term "supervising" as it is used in the law only once, when restating the statutory requirements. Elsewhere in detailing requirements the regulation uses language requiring the engineer to "direct" the operation of the project and revise the operation and maintenance manual as necessary to accommodate operating experience. It is not the intent of the amendment or the regulation to involve the engineer in the administrative details of daily operation of the plant such as individual personnel transactions or direct supervision of a contractor's employees. On the other hand, the legislative history of the amendments makes it clear that Congress envisioned a more active role for the engineer than merely advising the grantee, and that the intent was to firmly establish appropriate responsibility of all participants in the process.

We believe that the regulation provides a sufficiently flexible framework to allow grantees and their engineers to negotiate, on a case-by-case basis, appropriate arrangements that fulfill the intent of the amendments. The grantee may require sufficient assurances, guarantees or indemnity or other contractual requirements to achieve this goal.

At the end of the first year of operation, the grantee must certify to the Regional Administrator whether the project meets its design specifications and the enforceable requirements of the

Act. This has been changed from the language of the interim final regulation which said the certification was whether the project was *capable of meeting* project performance standards, in order to more closely reflect the 1981 amendments and their intent. The certification that the project *meets* project performance standards must be satisfactory to the Regional Administrator and must reflect at a minimum that applicable permit or other discharge requirements are currently being met.

If the project is not affirmatively certified, the grantee must provide a corrective action report. The cost of bringing the project into compliance is the responsibility of the grantee except for the modification or replacement of innovative or alternative technology projects. The grantee must also commit itself to a reasonable date on which it can make an affirmative certification to the Regional Administrator. If the grantee does not bring the project into compliance with the design specifications and enforceable requirements of the Act, EPA will take appropriate and prompt remedial action.

More detailed discussion of project certification is contained in the *CG* series guidance.

Delegation

For the sake of simplicity, the regulation refers to the role of the Regional Administrators. Delegation to State agencies remains an integral part of construction grants program management. As stated in § 35.2000(c), to the extent that the Regional Administrator delegates responsibility to a State agency under a delegation agreement, the term "Regional Administrator" is to be read "State agency."

Reserve Capacity

One commenter, noting that interceptors funded after the 1981 amendments are limited to 20 years reserve capacity in all cases, argued that the amendments and their history meant to allow Step 1 or Step 2 grantees with interceptors now under design for 40 years reserve capacity to receive Step 3 grants for that capacity. We disagree and believe that paragraph (a) of § 35.2123 is a correct reading of the law and its history. The "grandfathering" provision applies only if EPA awarded a grant for a Step 3 segment of an interceptor before December 29, 1981.

Several commenters expressed confusion over the application of 1990 needs as used in this section. This has been rewritten to make it clear that this date only has relevance after 1990, with

1990 being the cap on eligible needs after 1990.

Additionally, several questions were raised on how to determine "existing needs" and their relation to unallowable (beginning October 1, 1984) reserve capacity. First, existing needs should be considered flows as estimated to exist at time of grant award, and as described in an approved facility plan or facility plan amendment. For onsite systems, existing needs can include anticipated flows from failing onsite systems. The amount of these anticipated flows should be based on studies updated to the estimated date of grant award where necessary. Second, the length of the planning period to use in determining reserve capacity and in the cost-effectiveness analyses is to be 20 years (§ 35.2030(b)(3)). This is consistent with previous practice (40 CFR, Part 35, Subpart E, Appendix A.8.b and sections 204(a) (1) and (2) and 208(b)(2)(A) of the Clean Water Act). While this does not require that the project include capacity for a twenty-year period, it does require that the project be shown to be the most cost effective when compared to alternatives with capacity for a twenty year period.

For example, a project that only provides capacity for existing needs may be a stage of a complete waste treatment system. Alternatively, the project could be only for the costs to meet the existing needs, with the costs for reserve capacity identified using cost curves as described in the *CG* series guidance.

Federal Share

Some commenters expressed confusion relating to eligibility of treatment works phases or segments for 75 percent Federal grants after September 30, 1984 (grandfathering). Section 35.2152 of the regulation, which sets forth the requirement grandfathering, has been clarified in the final regulation. The final regulation makes our original intent that all grandfathered phases or segments be described in a facilities plan approved by the Regional Administrator before October 1, 1984, and that they be built in logical sequence assuring expeditious operation and compliance with the enforceable requirements of the Act.

The fact that an approved facilities plan describes a complete waste treatment system that includes a grandfathered phase or segment does not mean that the complete system is grandfathered. The description of the complete system is a planning tool to help put the proposed project in context. Under § 35.2152, the only grandfathered treatment works are those that are

described in a facilities plan that is approved prior to October 1, 1984, and that include a phase or segment that is awarded a Step 3 grant prior to October 1, 1984. Treatment works that do not include a phase or segment that is awarded a grant prior to October 1, 1984, are not grandfathered merely because they are described in a facilities plan that contains grandfathered treatment works. For example, if there were two treatment facilities and their interceptors described in the facilities plan, and only one had received a grant for a phase or segment prior to October 1, 1984, then only that facility and its interceptors are eligible for grandfathering. However, two treatment facilities with simple interconnections, such as sludge lines, are considered separate treatment facilities for purposes of this regulation.

Concerning the sequence for EPA funding of grandfathered phases and segments, § 35.2152 requires that EPA funded phases and segments be built in a sequence necessary to make phases or segments previously funded by EPA operational and comply with the enforceable requirements of the Act before other phases or segments receive EPA funding. EPA expects the sequence of funding segments will result in the earliest compliance with the enforceable requirements of the Act. For example, where an interceptor segment is built, the next segments to be funded are those which will make the interceptor operational and meet the enforceable requirements of the Act. EPA would not expect to fund a segment in another interceptor until the first interceptor is operational.

Another area of concern is the uniform lower Federal share. The lower uniform Federal share is applied on a project-by-project basis. That is, each separate grant, including phased and segmented grants, is viewed individually. Prior to October 1, 1984, grant assistance is awarded for a phase or segment with the Federal share prevailing at the time of award. Separate phases or segments of the same treatment works may, therefore, receive grant assistance with varying Federal shares, but once grant assistance is awarded for a project, the Federal share shall be the same for any grant increase within the scope of the project.

There was a question raised on the relationship between the "grandfathering" Federal share provision for treatment works first awarded segment grants before October 1, 1984, and the Governor's discretion to

uniformly reduce the Federal grant share throughout a State.

When EPA first proposed a regulation to implement the 1980 amendment (Pub. L. 96-483) regarding the uniform lower Federal share (46 FR 27314, May 18, 1981), we addressed the issue of varying the Federal share among treatment works phases or segments. That proposal and this regulation allow variations among treatment works phases or segments. Requiring States to maintain the same Federal share to each phase or segment of an entire waste treatment system would inhibit, or even preclude effectiveness of the amendment. However, for increases within the scope of a project, the Federal share will be the same as the share of the initial award for that project.

In instituting the "grandfathering" provision, Congress did not restrict the use of the lower Federal share. The 1981 amendments used the phrase "shall be eligible for grants at 75 per centum . . .," not "shall be 75 per centum." Reading this provisions consistent with the uniform lower Federal share means that should the Governor not reduce the Federal share, post 1984 phases or segments would receive 75 percent grants like 1984 or earlier phases or segments of that treatment works. If the Governor reduces the share, post-1984 phases or segments would be eligible for a grant at only the reduced Federal share prevailing in that State.

By maintaining our initial interpretation we are able to give effect to both provisions now part of the law. We believe, further, that this view is consistent with prevailing policies calling for maintaining and increasing State control over the construction grants program.

Another issue was the period of time for which the share would be reduced, EPA believes that one year periods are reasonable, but the Governor may lower the share for a shorter or longer period of time as the Governor deems appropriate. However, this flexibility may not be used to discriminate against particular projects or classes of projects.

Allotment and Reallotment

Recent experience with reallotment and several comments on the interim regulation highlighted the need for changes in the "Allotment and reallotment" section (§ 35.2010) and the "Reserves" section (§ 35.2020).

First, we made it clear that § 35.2010 applies only to funds appropriated under section 205 of the Clean Water Act. Funds available to the construction grants program from sources other than section 205, such as the Public Works

Employment Act and section 206 of the Clean Water Act, are not subject to reallotment under § 35.2010.

We revised § 35.2010 (c) and (d) to clarify the intent of those provisions. The interim final regulation revised § 35.910-2 in response to a problem encountered in reallotting FY 1979 and FY 1980 funds last year. Some regions deobligated funds late in fiscal year 1981 that were subject to reallotment on October 1, 1981. Deobligated funds must be reissued to the regions by the EPA Comptroller in headquarters before the Regional Administrator can reobligate them to other projects. That process takes time and some funds were not reissued in time for use before the end of the fiscal year. As a result, § 35.2010 (c) and (d) provide that funds deobligated by a Region which are not reissued to the Region before the reallotment date for those funds will not be subject to reallotment and shall be made available for obligation.

We added a new section (§ 35.2021) to clarify the reallotment provisions of the various reserves under § 35.2020. Paragraph (c) of § 35.2021 requires that Regions which deobligate funds from one of the mandatory reserves under § 35.2020 before the initial reallotment date for those funds return them to the same reserve after they are reissued by the EPA Comptroller. Funds from a mandatory reserve which are deobligated after the initial reallotment date for those funds are not to be returned to the reserve and are governed by § 35.2010(d).

Finally, we deleted the words "sums allotted for" from the second sentence of § 35.2010(b). This change was necessary to clarify the year with which funds reallotted or deobligated before an approval of an appropriation for the current year would be identified. In the future these funds will be treated like funds for the current year regardless of whether funds for that year have been appropriated.

Combined Sewer Overflow

The regulation incorporates two provisions of the 1981 amendments directly related to funding the correction of combined sewer overflow problems:

(1) Section 35.2024 implements section 201(n)(1) of the Act and states that after September 30, 1984 (when correction of combined sewer overflows is no longer an eligible category), the Governor may elect to use the regular State allotments from funds authorized under section 207 to address impaired uses in priority water quality areas due to the impacts of combined sewer overflows (CSOs).

(2) Section 35.2024 also deals with the use after September 30, 1982, of funds to

be appropriated under section 201(n)(2) of the Act for addressing impaired uses or public health risks resulting from combined sewer overflows in marine bays and estuaries. In addition to the priority criteria set forth here, § 35.2040 contains particular grant application requirements for this separate fund.

While this separate CSO fund's eligibility and priority criteria and application requirements are distinct, it is subject to all applicable limitations on award and grant conditions, as well as Federal share, allowable cost and other provisions imposed on CSO projects funded with monies authorized in section 207.

The regulation reflects the language of the conference committee report on H.R. 4503, placing restrictions on the funding of combined sewer overflow correction. Directed at both provisions for funding of combined sewer overflow projects, this language requires States to demonstrate to EPA the necessity for the project and the specific benefits to be achieved.

Guidance on the preparation and review of applications for marine CSO projects is available from the State water pollution control agency. Non-marine CSO projects applied for under § 35.2015(b)(2) (iii) and (iv) can also use the marine CSO guidance to prepare the demonstration of water quality benefits required by § 35.2024(b); however, the demonstration should address fishing (rather than shellfishing under the marine CSO program).

Work by Debarred or Suspended Persons

EPA published procedures for debarments and suspensions under EPA assistance programs, 40 CFR Part 32 (47 FR 35940) on August 17, 1982. This regulation states EPA's policy to do business only with persons who properly use Federal assistance.

The purpose of § 35.2105 is to inform EPA whether the applicant awarded a contract for planning or design work to a debarred, suspended, or excluded individual, organization, or unit of government. If the applicant certifies that it has made such an award, EPA shall closely examine the facilities plans, and design drawings and specifications to determine whether to award a Step 3 grant or take other appropriate action.

Value Engineering

Before the enactment of Pub. L. 97-117, value engineering was required during the design of projects with a projected total Step 3 grant eligible cost of \$10 million or more, excluding the

cost for interceptor and collector sewers. Pub. L. 97-117 requires that value engineering be conducted on all projects that did not have prior grant assistance for design where the total cost of building the treatment works is estimated to exceed \$10 million. (This includes the cost of building interceptor and collector sewers but does not include the cost of services.) Projects that had grant assistance for design are subject to the value engineering requirements of 40 CFR 35.926.

Miscellaneous Terms

The terms "project," "treatment works" and "complete waste treatment system" have specific meanings in this regulation and should not be used interchangeably. This reflects a consistency with the Act and EPA's general regulations for assistance programs (40 CFR Part 30).

"Project" refers only to the activities or tasks identified in the grant agreement.

The definition of "treatment works" is essentially the same as that contained in section 212 of the Act. In the context of the Clean Water Act, this is a broad definition, and includes "any devices and systems for the storage, treatment, recycling, and reclamation of municipal sewage, domestic sewage, or liquid industrial wastes."

A "complete waste treatment system" is the total of all elements necessary for the transport, treatment and ultimate disposal of treated wastewater and residuals.

Building

The term "building" has been used throughout this regulation to describe the principal activity to be undertaken in the grants program. That is, the program provides assistance for the erection, acquisition, alteration, remodeling, improvement or extension of facilities to transport and treat wastewater. The term "building" is used in this regulation rather than "construction" (the term used in the past) because "construction" is defined in the Act to include facilities planning and design. EPA can no longer award grant assistance solely for facilities planning and design activities.

Costs of Acquiring Existing Treatment Works

Section D.1.e of Appendix A to the interim final rule states long-standing EPA policy limiting grant assistance for the acquisition of existing publicly or privately owned treatment works. This provision explains that the costs of acquiring existing treatment works are allowable only if the acquisition

provides new pollution control benefits and meets three other criteria.

The limitations contained in section D.1.e reflect the purpose of section 201 of the Clean Water Act, which is to make grant funds available to municipalities for the construction of treatment works that provide new pollution control benefits (i.e., pollution control services that are additional to those being provided before grant award) and not to provide reimbursement for costs incurred to construct existing facilities. In view of this purpose, acquisitions of existing treatment works are generally ineligible for section 201 funding because they usually do not provide new pollution control benefits. Conversely, the upgrade, expansion, or rehabilitation of a project that includes an acquisition does provide such benefits and thus the upgrade, expansion, or rehabilitation portion may be eligible although the acquisition portion is not. An example of an eligible acquisition would be a municipality's purchase of demonstrated excess treatment works capacity that was built without Federal funds and provides new pollution control benefits.

On October 28, 1982, subsequent to the promulgation of the interim final rule, the EPA Board of Assistance Appeals issued a decision on the case of *Atlantic City Municipal Utilities Authority* (EPA Docket No. 81-19) which misinterpreted the new pollution control benefits principle. In *Atlantic City*, the Board found allowable the costs incurred by the Authority to purchase a privately-owned sewage collection system. The Board based its determination on the assumption that the acquisition would result in new pollution control benefits because the Authority intended to rehabilitate the system. This determination, however, overlooked the fact that the acquisition independent of the rehabilitation plan would not provide new water pollution control services additional to those being provided before acquisition.

We have modified Appendix A to state explicitly that in determining the eligibility of acquisitions of existing facilities it is necessary to distinguish between the acquisition and any subsequent improvements. An acquisition of an existing facility is eligible only if the acquisition, in and of itself, considered apart from any upgrade, expansion or rehabilitation, provides new pollution control benefits.

Appendix A—Revised Interim Final Rule

Allowable Costs

Appendix A consolidates information on allowable and unallowable costs. Although the Appendix continues existing Agency policy in 40 CFR Part 35, the Handbook of Procedures and Program Requirement Memoranda, it also reflects new policies designed to restrict allowability assuring more pollution control benefits from limited program funds. To simplify its use, Appendix A has been organized by type of cost, i.e., subagreement costs, small systems, equipment, etc.

Replacement and Additions Costs

Section H.2.e of Appendix A states EPA's policy against providing grant assistance for replacing, through reconstruction or substitution, failed treatment works that were built with construction grants assistance. This provision bars the procedure of providing grant assistance for replacement costs after the costs under the original grant for the failed treatment works are disallowed.

Based on comments received on the interim final regulation, we have clarified the replacement cost provision in two ways. First, the sentence structure has been modified to make clear that the provision applies to treatment works that fail before the expiration of their design life, either before or after initiation of operation. Second, the statutory reference has been modified to clarify our original intent that the provision covers treatment works built with Federal assistance provided under the Federal Water Pollution Control Act of 1956 (Pub. L. 84-660) or any subsequent amendments including, but not limited to, Pub. L. 92-500.

We have also clarified the policy against grant assistance for replacement costs by explaining, in Paragraph H.1.d of Appendix A, EPA's policy concerning additions to projects that fail to meet their performance standards. The additions provision is not an exception to the prohibition against grant assistance for replacement costs. As Paragraph H.2.e makes clear, the costs of replacing failed treatment works through reconstruction or substitution are unallowable.

Paragraph H.1.d provides that if the additions costs are demonstrated not to be caused by the grantee's mismanagement or the improper actions of others (e.g., the grantee's engineers or contractors), the costs are allowable under limited conditions. Subparagraph

H.1.d(3)(a) provides that if the need for additions is caused by changes in performance standards or design criteria outside the grantee's control or by a written agreement or directive to delay building a portion of the treatment works, the cost of the additions is allowable. Subparagraph H.1.d(3)(b) limits the allowability of additions not covered by subparagraph H.1.d(3)(a) by excluding the costs of rework, delay, acceleration or disruption caused by the additions and requiring on projects for which grants are awarded after December 28, 1981, that the additions be made during the project's first year of operation.

Cost of Corrective Action Report

In the interim final regulation the cost of the corrective action report was listed as allowable. One commenter questioned this, and upon review of the 1981 amendments we have concluded that the Congress intended this cost to be unallowable. The statute refers to undertaking correction at other than Federal expense, and the corrective action report is a part of that effort.

Costs Related to Subagreement Enforcement

The construction grants regulation has long referred to the authority of EPA to provide technical and legal assistance in the administration and enforcement of subagreements. This regulation describes EPA financial assistance as an alternative to direct assistance. It is generally unallowable unless a number of conditions are met. These conditions include a formal grant amendment specifically covering the costs before they are incurred and the Regional Administrator's determination that there is a significant Federal interest in the subagreement matters at issue.

Mercury Seals

The cost of process equipment such as trickling filters and comminutors that use mercury seals is no longer listed as an unallowable cost. While the Agency continues to have concerns about the safe use of mercury seals, there is no statutory basis for prohibiting the use of mercury seals. Decisions on the use of mercury seals should be made on a case-by-case basis; specific guidance on this subject is contained in the CG series guidance.

Appendix B: Allowance for Facilities Planning and Design—Final Rule

One of the most significant changes in the construction grants program resulting from the 1981 Amendments is the elimination of grants for planning (Step 1) and design (Step 2). Grant

agreements include an allowance for facilities planning and design. Grantees that currently have a Step 1 or Step 2 grant will be able to complete the work included in their scope of work using the present system of grant payments. However, the 1981 Amendments prohibit new grants exclusively for facilities planning or design. Those activities will be completed by potential grantees before they apply for a grant to build their projects. The Congress, in providing the allowance mechanism, sought to achieve systemwide efficiency. In so doing, the Congress acknowledged the potential for inequity in the allowance for any given project. The device in the law is not a cost reimbursement, but an allowance. EPA understands that, in practice, any savings realized from the allowance will be available to each community for general public purposes. The Agency expects that these funds will be used to defray unreimbursed expenses associated with plant construction. Due to the unrestricted nature of the allowance, however, EPA will not audit the use of these funds.

Appendix B contains the procedures to determine the amount of advances of allowance and of the estimated and final allowances. Allowances in Appendix B are based on the percentage of building costs that have historically been attributable to facilities planning and design. Costs of specific facilities planning and design activities are not segregated and cannot be considered as a basis for reimbursement in addition to the allowance.

The allowance for a project is a single sum based on the actual total allowable building cost. Allowances are not auditable and the activities they cover are not subject to EPA requirements for procurement under assistance agreements (40 CFR Part 33). However, the Congress did not intend to reduce the opportunities afforded minority and women's business enterprises (MBE/WBE) to compete for contracts associated with construction of publicly owned treatment works; therefore, it is EPA's policy to encourage recipients to adopt procurement procedures for all activities of their construction program that, at a minimum, include the affirmative steps in 40 CFR § 33.240. EPA will request information from grant applicants regarding the level of minority and women's business enterprise participation achieved during planning and design activities in order to meet our obligation to report MBE and WBE participation in the construction grants program.

The data analysis for the development of the allowances took the form of using

one parameter as the sole predictor of a second parameter. The method employed was bivariate analysis using a linear regression technique, a convenient, widely accepted way of analyzing both large and small data sets for relationships. The least-squares method was used for the linear regression analysis; this method yields an equation which expresses one variable in terms of another. The allowances for facilities planning and design are based on such regression equations.

Since the allowance applies to all of the work performed during the facilities planning and design of the project, not just architectural or engineering services, the historical data used to develop the allowance tables included all of the allowable costs of the Step 1 and Step 2 work. In addition, prior to any analysis being performed, all of the cost values were updated (adjusted for inflation) and normalized (adjusted to a common geographical area) to fourth quarter (calendar year) 1980 Kansas City/St. Joseph, Missouri dollars.

After the publication of the proposed allowance tables in the *Federal Register* on May 12, 1982, additional analysis of the historical cost data was performed. This additional work was undertaken for two reasons. First, it was desired to verify the appropriateness of the methodology and procedures used to develop the allowance tables, and if possible to improve it. Second, the additional analysis was necessary to respond to comments which suggested different approaches for analyzing the cost data. As part of this follow-up analysis, EPA contracted for a statistician to conduct an independent review of the methodology and procedure that were used to develop the proposed (May 12, 1982) allowance tables.

The follow-up analysis contains two refinements that were not included in the development of the proposed allowance tables. The proposed allowance tables were developed from a regression analysis that related building cost (in dollars) to Step 1 and/or Step 2 cost (expressed as a percentage of building cost). The proposed allowance tables were calculated using the resulting regression equations. This technique, although valid, showed a poor correlation between the two variables. Although the basic technique used to generate the regression equation is sound, the result tends to mask the actual relationships between building cost and Step 1 and Step 2 cost. In order to overcome the masking of the variation, the independent statistical consultant suggested a new method of

relating the two variables. The new method entailed relating the building cost (in dollars) directly to the Step 1 and/or Step 2 cost (in dollars), and not to Step 1 and/or Step 2 cost (expressed as a percentage of building cost) as was done in the original analysis. This method produced a very good correlation (in the 80-85% range) and supported the underlying hypothesis that a change in building cost results in a change in Step 1 and/or Step 2 cost.

Since the method for developing the regression equation changed, it was necessary to change the method of calculating the allowance percentage. Instead of inserting the building cost into an equation and calculating a percent, a two step process was necessary. First a building cost was entered into the regression equation to obtain the facilities planning and/or design cost. The resulting dollar value was then divided by the input building cost to obtain the allowance percentage.

The second change in the development of the final allowance tables involved the selection of projects that were included in the analysis. The analysis that resulted in the development of the proposed allowance tables included all of the projects in EPA's construction cost data base that had Step 1 cost and/or Step 2 cost. This resulted in the inclusion of a number of projects in the analysis that were lacking an associated Step 1 or Step 2 cost. The Step cost could have been missing for a number of reasons. For example, the Step 1 cost could have been funded by the community. This would result in a project being included in the analysis that had a Step 2 cost without any associated Step 1 cost. For this reason, the analysis that resulted in the final allowance tables only included projects that had both a Step 1 and a Step 2 cost.

In the proposed allowance tables, the allowance for design was developed by subtracting the values obtained from the regression equation for facilities planning from the values obtained from the regression equation for combined facilities planning and design to develop a third equation. This mathematical procedure was necessary because many of the Step 2 projects included in the earlier analysis contained reimbursement for facilities planning cost in the Step 2 awards. Since the analysis that resulted in the development of the final allowance tables only included projects that contained both a Step 1 and Step 2 cost, it was not necessary to use this mathematical procedure. Instead the allowance for design was developed

directly from the regression equation relating building cost (in dollars) to Step 2 cost (in dollars).

As a result of this follow-up analysis, the final allowance tables differ slightly from the tables that were published on May 12, 1982. The percentages in the final allowance tables are higher for projects with low building cost and lower for projects with high building cost than those in the proposed allowance tables.

We received 38 comments concerning the allowance for facilities planning and design. A number of commenters stated that the allowance would not fully compensate communities for the facilities planning and design cost associated with complicated or involved projects. Similarly, other commenters were concerned that the allowance procedure could discourage value engineering (VE) or designs incorporating innovative or alternative (I/A) technologies, because the higher cost normally associated with these services would not be fully covered by the allowance.

EPA carefully considered these comments. However, after extensive deliberation, we determined that it was not in the best interest of the program to change the allowance procedures. This decision was based on the following:

(1) EPA does not want to create a compensation schedule for facilities planning or design services such as the one contained in the American Society of Civil Engineer's Manual No. 45. If separate allowance tables were created for advanced treatment projects, innovative projects, value engineering projects, or for different geographical areas of the country, it would give the impression that the allowance tables could be used to determine the compensation for services on these types of projects.

(2) EPA does not believe the amount paid under the allowance procedures would have any significant impact on the effectiveness of the VE program or selection of I/A technologies. The I/A program already has many incentives, including a larger Federal share, lower operational cost, and higher ranking on the State's priority list. Similarly, EPA believes that there are sufficient safeguards and incentives contained in the regulations to assure an effective VE program.

(3) Congress, in providing an allowance for facilities planning and design, sought to achieve overall program efficiencies. In doing so, the Congress acknowledged the potential for inequity in the allowance for an individual project.

A number of commenters suggested that the allowance tables be changed to show the percentage for the Federal share. Although this could simplify the application of the allowance procedures, this change could not be made because the Federal share of a project is not fixed. Therefore, the tables continue to show the total allowance and EPA pays the prevailing Federal share of that figure.

The proposed allowance procedures require that the allowance be based on the allowable cost of building the treatment works. Accordingly, the allowance for a segment of a treatment works was to be based on the cumulative allowable building cost to date minus any previous allowances. We received comments from a number of communities and from members of the engineering profession stating that this was not an equitable way to determine the allowance. These commenters said that in most cases each segment stands alone, and for this reason, the allowance should be based only on the building cost of that segment. Another commenter wrote that the proposed procedure was more complex, difficult to understand, and different than the procedures generally used in the engineering profession. It was also pointed out that the analysis of the historical cost information did not, in many instances, represent the entire cost of building the treatment works. Because of these reasons EPA is deleting the procedures that were proposed for determining the allowance for segmented and phase funded treatment works. In the future, the allowance will be based on the allowable building cost of each segment.

A number of commenters objected to the adjustment of the allowance to reflect the building cost one year after substantial completion of the design drawings and specifications. They argue that since the allowance is not directly related to the cost of facilities planning and design, it should not be related to the date of completion of such work. EPA agrees with this logic. Accordingly, the proposal to adjust the allowance to reflect the date of completion of facilities planning and design was deleted from Appendix B.

In response to a number of comments the allowance tables were expanded to include projects with building cost less than \$100,000 and projects with building cost between \$100 million and \$200 million.

One commenter suggested that all references to the allowance being based on an analysis of historical data be removed from Appendix B because such

a discussion could give the impression that the tables could be used to estimate the actual facilities planning and design cost. Since these references are not needed to determine the allowance, and because this preamble includes an extensive discussion of the data and analysis, these references have been deleted from Appendix B.

Many commenters expressed concern that the allowance tables in Appendix B would be used by communities to determine the amount to be paid to architect/engineering firms for planning and design services. As stated above, the tables are not designed to be used as a compensation schedule for facilities planning or design services. In fact, many variables, including demonstrated competence, experience and qualifications of the firms involved are important factors in determining the appropriate fees for architect/engineering services. To reinforce this fact, a "Note" to this effect has been incorporated into Appendix B.

Regulation Development Process

This program is listed in the Catalog of Federal Domestic Assistance as number 66.418—Construction Grants for Wastewater Treatment Works. Executive Order 12372 of July 14, 1982, detailed a State and local elected official consultation process to replace Office of Management and Budget Circular A-95. EPA published a final regulation on June 24, 1983, implementing this Executive Order (48 FR 29268).

Under Executive Order 12291 EPA is required to judge whether a regulation is "major" and therefore subject to the regulatory impact analysis requirements of the Order. We are making these changes to implement Pub. L. 96-483, the October 21, 1980 amendments to the Clean Water Act, to reduce the complexity of the regulation, and to implement the Municipal Wastewater Treatment Construction Grant Amendments of 1981 (Pub. L. 97-117). I have determined this regulation is not a major regulation as it will not have a substantial impact on the nation's economy or large numbers of individuals or businesses. Thus it is not subject to the impact analysis requirements of Executive Order 12291.

Information collection requirements contained in this regulation have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq. and have been assigned OMB control number 2040-0027.

Under the Regulatory Flexibility Act (5 U.S.C. 601) I hereby certify that this

regulation will not have a significant impact on a substantial number of small entities. This rule is designed to reduce regulation burdens to a minimum. The revisions made clarify and simplify the regulation, and reduce project costs.

List of Subjects in 48 CFR Part 35

Air pollution control, Grant programs—environmental protection, Indians, Pesticides and pests, Reporting and recordkeeping requirements, Waste treatment and disposal, Water pollution control.

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291.

Dated: February 3, 1984.

William D. Ruckelshaus,
Administrator.

For the reasons outlined in the preamble, 40 CFR Part 35 is amended by revising Subpart I, to read as follows:

PART 35—STATE AND LOCAL ASSISTANCE

* * *

Subpart I—Grants for Construction of Treatment Works

- Sec.
- 35.2000 Purpose and policy.
- 35.2005 Definitions.
- 35.2010 Allotment; reallocation.
- 35.2015 State priority system and project priority list.
- 35.2020 Reserves.
- 35.2021 Reallocation of reserves.
- 35.2023 Water quality management planning.
- 35.2024 Combined sewer overflows.
- 35.2025 Allowance and advance of allowance.
- 35.2030 Facilities planning.
- 35.2032 Innovative and alternative technologies.
- 35.2034 Privately owned individual systems.
- 35.2040 Grant application.
- 35.2042 Review of grant applications.
- 35.2050 Effect of approval or certification of documents.
- 35.2100 Limitations on award.
- 35.2101 Advanced treatment.
- 35.2102 Water quality management plans.
- 35.2103 Priority determination.
- 35.2104 Funding and other considerations.
- 35.2105 Debarment and suspension.
- 35.2106 Plan of operation.
- 35.2107 Intermunicipal service agreements.
- 35.2108 Phased or segmented treatment works.
- 35.2109 Step 2+3.
- 35.2110 Access to individual systems.
- 35.2111 Revised water quality standards.
- 35.2112 Marine discharge waiver applicants.
- 35.2113 Environmental review.
- 35.2114 Value engineering.
- 35.2116 Collection system.
- 35.2118 Preaward costs.
- 35.2120 Infiltration/inflow.

Sec.

- 35.2122 Approval of user charge system and proposed sewer use ordinance.
- 35.2123 Reserve capacity.
- 35.2125 Treatment of wastewater from industrial users.
- 35.2127 Federal facilities.
- 35.2130 Sewer use ordinance.
- 35.2140 User charge system.
- 35.2152 Federal share.
- 35.2200 Grant conditions.
- 35.2202 Step 2+3 projects.
- 35.2204 Project changes.
- 35.2206 Operation and maintenance.
- 35.2208 Adoption of sewer use ordinance and user charge system.
- 35.2210 Land acquisition.
- 35.2211 Field testing for innovative and Alternative Technology Report.
- 35.2212 Project initiation.
- 35.2214 Grantee responsibilities.
- 35.2216 Notice of building completion and final inspection.
- 35.2218 Project performance.
- 35.2250 Determination of allowable costs.
- 35.2260 Advance purchase of eligible land.
- 35.2262 Funding of field testing.
- 35.2300 Grant payments.
- 35.2350 Subagreement enforcement.
- Appendix A—Determination of allowable costs.
- Appendix B—Allowance for facilities planning and design.

Subpart I—Grants for Construction of Treatment Works

Authority: Secs. 101(e), 108(b), 201 through 205, 207, 208(d), 210 through 212, 215 through 217, 304(d)(3), 313, 501, 502, 511 and 516(b) of the Clean Water Act, as amended, 33 U.S.C. 1251 et seq.

§ 35.2000 Purpose and policy.

(a) The primary purpose of Federal grant assistance available under this subpart is to assist municipalities in meeting enforceable requirements of the Clean Water Act, particularly, applicable National Pollutant Discharge Elimination System (NPDES) permit requirements.

(b) This subpart supplements EPA's Uniform Relocation and Real Property Acquisition Policies Act regulation (Part 4 of this chapter), its National Environmental Policy Act (NEPA) regulation (Part 6 of this chapter), its public participation regulation (Part 25 of this chapter), its intergovernmental review regulation (Part 29 of this chapter), its general grant regulation (Part 30 of this subchapter), its debarment regulation (Part 32 of this subchapter), and its procurement under assistance regulation (Part 33 of this subchapter), and establishes requirements for Federal grant assistance for the building of wastewater treatment works. EPA may also find it necessary to publish other requirements applicable to the construction grants program in response

to Congressional action and executive orders.

(c) EPA's policy is to delegate administration of the construction grants program on individual projects to State agencies to the maximum extent possible (see Subpart F). Throughout this subpart we have used the term Regional Administrator. To the extent that the Regional Administrator delegates review of projects for compliance with the requirements of this subpart to a State agency under a delegation agreement (§ 35.1030), the term Regional Administrator may be read State agency. This paragraph does not affect the rights of citizens, applicants or grantees provided in Subpart F.

(d) In accordance with the Federal Grant and Cooperative Agreement Act (Pub. L. 95-224) EPA will, when substantial Federal involvement is anticipated, award assistance under cooperative agreements. Throughout this subpart we have used the terms grant and grantee but those terms may be read cooperative agreement and recipient if appropriate.

(e) From time to time EPA publishes technical and guidance materials on various topics relevant to the construction grants program. Grantees may find this information useful in meeting requirements in this subpart. These publications, including the MCD and FRD series, may be ordered from: EPA, 401 M St. SW, Room 1115 ET, WH 547, Washington, DC 20460. In order to expedite processing of requests, persons wishing to obtain these publications should request a copy of EPA form 7500-21 (the order form listing all available publications), from EPA Headquarters, Municipal Construction Division (WH-547) or from any EPA Regional Office.

§ 35.2005 Definitions.

(a) Words and terms not defined below shall have the meaning given to them in 40 CFR Parts 30 and 33.

(b) As used in this subpart, the following words and terms mean:

(1) *Act*. The Clean Water Act (33 U.S.C. 1251 et seq., as amended).

(2) *Ad valorem tax*. A tax based upon the value of real property.

(3) *Allowance*. An amount based on a percentage of the project's allowable building cost, computed in accordance with Appendix B.

(4) *Alternative technology*. Proven wastewater treatment processes and techniques which provide for the reclaiming and reuse of water, productively recycle wastewater constituents or otherwise eliminate the discharge of pollutants, or recover energy. Specifically, alternative

technology includes land application of effluent and sludge; aquifer recharge; aquaculture; direct reuse (non-potable); horticulture; revegetation of disturbed land; containment ponds; sludge composting and drying prior to land application; self-sustaining incineration; methane recovery; individual and onsite systems; and small diameter pressure and vacuum sewers and small diameter gravity sewers carrying partially or fully treated wastewater.

(5) *Alternative to conventional treatment works for a small community*. For purposes of §§ 35.2020 and 35.2032 a treatment works in a small community using innovative or alternative technology.

(6) *Architectural or engineering services*. Consultation, investigations, reports, or services for design-type projects within the scope of the practice of architecture or professional engineering as defined by the laws of the State or territory in which the grantee is located.

(7) *Best Practicable Waste Treatment Technology (BPWTT)*. The cost-effective technology that can treat wastewater, combined sewer overflows and nonexcessive infiltration and inflow in publicly owned or individual wastewater treatment works, to meet the applicable provisions of:

(i) 40 CFR Part 133—secondary treatment of wastewater;

(ii) 40 CFR Part 125, Subpart G—marine discharge waivers;

(iii) 40 CFR 122.44(d)—more stringent water quality standards and State standards; or

(iv) 41 FR 6190 (February 11, 1976)—Alternative Waste Management Techniques for Best Practicable Waste Treatment (treatment and discharge, land application techniques and utilization practices, and reuse).

(8) *Building*. The erection, acquisition, alteration, remodeling, improvement or extension of treatment works.

(9) *Building completion*. The date when all but minor components of a project have been built, all equipment is operational and the project is capable of functioning as designed.

(10) *Collector sewer*. The common lateral sewers, within a publicly owned treatment system, which are primarily installed to receive wastewaters directly from facilities which convey wastewater from individual systems, or from private property, and which include service "Y" connections designed for connection with those facilities including:

(i) Crossover sewers connecting more than one property on one side of a major street, road, or highway to a lateral sewer on the other side when more cost effective than parallel sewers; and

(ii) Except as provided in (b)(10)(iii) of this section, pumping units and pressurized lines serving individual structures or groups of structures when such units are cost effective and are owned and maintained by the grantee.

(iii) This definition excludes other facilities which convey wastewater from individual structures, from private property to the public lateral sewer, or its equivalent and also excludes facilities associated with alternatives to conventional treatment works in small communities.

(11) *Combined sewer*. A sewer that is designed as a sanitary sewer and a storm sewer.

(12) *Complete waste treatment system*. A complete waste treatment system consists of all the treatment works necessary to meet the requirements of title III of the Act, involving: (i) The transport of wastewater from individual homes or buildings to a plant or facility where treatment of the wastewater is accomplished; (ii) the treatment of the wastewater to remove pollutants; and (iii) the ultimate disposal, including recycling or reuse, of the treated wastewater and residues which result from the treatment process.

(13) *Construction*. Any one or more of the following: Preliminary planning to determine the feasibility of treatment works, engineering, architectural, legal, fiscal, or economic investigations or studies, surveys, designs, plans, working drawings, specifications, procedures, field testing of innovative or alternative wastewater treatment processes and techniques (excluding operation and maintenance) meeting guidelines promulgated under section 304(d)(3) of the Act, or other necessary actions, erection, building, acquisition, alteration, remodeling, improvement, or extension of treatment works, or the inspection or supervision of any of the foregoing items.

(14) *Conventional technology*. Wastewater treatment processes and techniques involving the treatment of wastewater at a centralized treatment plant by means of biological or physical/chemical unit processes followed by direct point source discharge to surface waters.

(15) *Enforceable requirements of the Act*. Those conditions or limitations of section 402 or 404 permits which, if violated, could result in the issuance of a compliance order or initiation of a civil or criminal action under section 309 of the Act or applicable State laws. If a permit has not been issued, the term shall include any requirement which, in the Regional Administrator's judgment,

would be included in the permit when issued. Where no permit applies, the term shall include any requirement which the Regional Administrator determines is necessary for the best practicable waste treatment technology to meet applicable criteria.

(16) *Excessive infiltration/inflow.* The quantities of infiltration/inflow which can be economically eliminated from a sewer system as determined in a cost-effectiveness analysis that compares the costs for correcting the infiltration/inflow conditions to the total costs for transportation and treatment of the infiltration/inflow. (See §§ 35.2005(b)(28), (b)(29) and 35.2120).

(17) *Field testing.* Practical and generally small-scale testing of innovative or alternative technologies directed to verifying performance and/or refining design parameters not sufficiently tested to resolve technical uncertainties which prevent the funding of a promising improvement in innovative or alternative treatment technology.

(18) *Individual systems.* Privately owned alternative wastewater treatment works (including dual waterless/gray water systems) serving one or more principal residences, or small commercial establishments. Normally these are onsite systems with localized treatment and disposal of wastewater, but may be systems utilizing small diameter gravity, pressure or vacuum sewers conveying treated or partially treated wastewater. These systems can also include small diameter gravity sewers carrying raw wastewater to cluster systems.

(19) *Industrial user.* Any nongovernmental, nonresidential user of a publicly owned treatment works which is identified in the Standard Industrial Classification Manual, 1972, Office of Management and Budget, as amended and supplemented, under one of the following divisions:

Division A. Agriculture, Forestry, and Fishing
Division B. Mining
Division D. Manufacturing
Division E. Transportation, Communications, Electric, Gas, and Sanitary Services
Division I. Services

(20) *Infiltration.* Water other than wastewater that enters a sewer system (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.

(21) *Inflow.* Water other than wastewater that enters a sewer system (including sewer service connections) from sources such as, but not limited to,

roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers, and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters, or drainage. Inflow does not include, and is distinguished from, infiltration.

(22) *Initiation of operation.* The date specified by the grantee on which use of the project begins for the purposes that it was planned, designed, and built.

(23) *Innovative technology.* Developed wastewater treatment processes and techniques which have not been fully proven under the circumstances of their contemplated use and which represent a significant advancement over the state of the art in terms of significant reduction in life cycle cost or significant environmental benefits through the reclaiming and reuse of water, otherwise eliminating the discharge of pollutants, utilizing recycling techniques such as land treatment, more efficient use of energy and resources, improved or new methods of waste treatment management for combined municipal and industrial systems, or the confined disposal of pollutants so that they will not migrate to cause water or other environmental pollution.

(24) *Interceptor sewer.* A sewer which is designed for one or more of the following purposes:

(i) To intercept wastewater from a final point in a collector sewer and convey such wastes directly to a treatment facility or another interceptor.

(ii) To replace an existing wastewater treatment facility and transport the wastes to an adjoining collector sewer or interceptor sewer for conveyance to a treatment plant.

(iii) To transport wastewater from one or more municipal collector sewers to another municipality or to a regional plant for treatment.

(iv) To intercept an existing major discharge of raw or inadequately treated wastewater for transport directly to another interceptor or to a treatment plant.

(25) *Interstate agency.* An agency of two or more States established under an agreement or compact approved by the Congress, or any other agency of two or more States, having substantial powers or duties pertaining to the control of water pollution.

(26) *Marine bays and estuaries.* Semi-enclosed coastal waters which have a free connection to the territorial sea.

(27) *Municipality.* A city, town, borough, county, parish, district, association, or other public body (including an intermunicipal agency of

two or more of the foregoing entities) created under State law, or an Indian tribe or an authorized Indian tribal organization, having jurisdiction over disposal of sewage, industrial wastes, or other waste, or a designated and approved management agency under section 208 of the Act.

(i) This definition includes a special district created under State law such as a water district, sewer district, sanitary district, utility district, drainage district or similar entity or an integrated waste management facility, as defined in section 201(e) of the Act, which has as one of its principal responsibilities the treatment, transport, or disposal of domestic wastewater in a particular geographic area.

(ii) This definition excludes the following:

(A) Any revenue producing entity which has as its principal responsibility an activity other than providing wastewater treatment services to the general public, such as an airport, turnpike, port facility or other municipal utility.

(B) Any special district (such as school district or a park district) which has the responsibility to provide wastewater treatment services in support of its principal activity at specific facilities, unless the special district has the responsibility under State law to provide wastewater treatment services to the community surrounding the special district's facility and no other municipality, with concurrent jurisdiction to serve the community, serves or intends to serve the special district's facility or the surrounding community.

(28) *Nonexcessive infiltration.* The quantity of flow which is less than 120 gallons per capita per day (domestic base flow and infiltration) or the quantity of infiltration which cannot be economically and effectively eliminated from a sewer system as determined in a cost-effectiveness analysis. (See §§ 35.2005(b)(18) and 35.2120.)

(29) *Nonexcessive inflow.* The rainfall induced peak inflow rate which does not result in chronic operational problems related to hydraulic overloading of the treatment works during storm events. These problems may include surcharging, backups, bypasses, and overflows. (See §§ 35.2005(b)(18) and 35.2120.)

(30) *Operation and Maintenance.* Activities required to assure the dependable and economical function of treatment works.

(i) *Maintenance:* Preservation of functional integrity and efficiency of equipment and structures. This includes

preventive maintenance, corrective maintenance and replacement of equipment (See § 35.2005(b)(38)) as needed.)

(ii) *Operation*: Control of the unit processes and equipment which make up the treatment works. This includes financial and personnel management; records, laboratory control, process control, safety and emergency operation planning.

(31) *Principal residence*. For the purposes of § 35.2034, the habitation of a family or household for at least 51 percent of the year. Second homes, vacation or recreation residences are not included in this definition.

(32) *Project*. The activities or tasks the Regional Administrator identifies in the grant agreement for which the grantee may expend, obligate or commit funds.

(33) *Project performance standards*. The performance and operations requirements applicable to a project including the enforceable requirements of the Act and the specifications, including the quantity of excessive infiltration and inflow proposed to be eliminated, which the project is planned and designed to meet.

(34) *Priority water quality areas*. For the purposes of § 35.2015, specific stream segments or bodies of water, as determined by the State, where municipal discharges have resulted in the impairment of a designated use or significant public health risks, and where the reduction of pollution from such discharges will substantially restore surface or groundwater uses.

(35) *Project schedule*. A timetable specifying the dates of key project events including public notices of proposed procurement actions, subagreement awards, issuance of notice to proceed with building, key milestones in the building schedule, completion of building, initiation of operation and certification of the project.

(36) *Replacement*. Obtaining and installing equipment, accessories, or appurtenances which are necessary during the design or useful life, whichever is longer, of the treatment works to maintain the capacity and performance for which such works were designed and constructed.

(37) *Sanitary sewer*. A conduit intended to carry liquid and water-carried wastes from residences, commercial buildings, industrial plants and institutions together with minor quantities of ground, storm and surface waters that are not admitted intentionally.

(38) *Services*. A contractor's labor, time or efforts which do not involve the delivery of a specific end item, other

than documents (e.g., reports, design drawings, specifications). This term does not include employment agreements or collective bargaining agreements.

(39) *Small commercial establishments*. For purposes of § 35.2034 private establishments such as restaurants, hotels, stores, filling stations, or recreational facilities and private, nonprofit entities such as churches, schools, hospitals, or charitable organizations with dry weather wastewater flows less than 25,000 gallons per day.

(40) *Small community*. For purposes of §§ 35.2020(b) and 35.2032, any municipality with a population of 3,500 or less, or highly dispersed sections of large municipalities, as determined by the Regional Administrator.

(41) *State*. A State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Trust Territory of the Pacific Islands, and the Commonwealth of the Northern Marianas. For the purposes of applying for a grant under section 201(g)(1) of the act, a State (including its agencies) is subject to the limitations on revenue producing entities and special districts contained in § 35.2005(b)(27)(ii).

(42) *State agency*. The State agency designated by the Governor having responsibility for administration of the construction grants program under section 205(g) of the Act.

(43) *Step 1*. Facilities planning.

(44) *Step 2*. Preparation of design drawings and specifications.

(45) *Step 3*. Building of a treatment works and related services and supplies.

(46) *Step 2+3*. Design and building of a treatment works and building related services and supplies.

(47) *Storm sewer*. A sewer designed to carry only storm waters, surface run-off, street wash waters, and drainage.

(48) *Treatment works*. Any devices and systems for the storage, treatment, recycling, and reclamation of municipal sewage, domestic sewage, or liquid industrial wastes used to implement section 201 of the Act, or necessary to recycle or reuse water at the most economical cost over the design life of the works. These include intercepting sewers, outfall sewers, sewage collection systems, individual systems, pumping, power, and other equipment and their appurtenances; extensions, improvement, remodeling, additions, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities; and any works, including acquisition of the land that will be an integral part of the treatment

process or is used for ultimate disposal of residues resulting from such treatment (including land for composting sludge, temporary storage of such compost and land used for the storage of treated wastewater in land treatment systems before land application); or any other method or system for preventing, abating, reducing, storing, treating, separating, or disposing of municipal waste or industrial waste, including waste in combined storm water and sanitary sewer systems.

(49) *Treatment works phase or segment*. A treatment works phase or segment may be any substantial portion of a facility and its interceptors described in a facilities plan under § 35.2030, which can be identified as a subagreement or discrete subitem. Multiple subagreements under a project shall not be considered to be segments or phases. Completion of building of a treatment works phase or segment may, but need not in and of itself, result in an operable treatment works.

(50) *Useful life*. The period during which a treatment works operates. (Not "design life" which is the period during which a treatment works is planned and designed to be operated.)

(51) *User charge*. A charge levied on users of a treatment works, or that portion of the ad valorem taxes paid by a user, for the user's proportionate share of the cost of operation and maintenance (including replacement) of such works under sections 204(b)(1)(A) and 201(h)(2) of the Act and this subpart.

(52) *Value engineering*. A specialized cost control technique which uses a systematic and creative approach to identify and to focus on unnecessarily high cost in a project in order to arrive at a cost saving without sacrificing the reliability or efficiency of the project.

§ 35.2010 Allotment; reallocation.

(a) Allotments are made on a formula or other basis which Congress specifies for each fiscal year (FY). The allotment for each State and the availability period shall be announced each fiscal year in the Federal Register. This section applies only to funds allotted under section 205 of the Act.

(b) Unless otherwise provided by Congress, all sums allotted to a State under section 205 of the Act shall remain available for obligation until the end of one year after the close of the fiscal year for which the sums were appropriated. Except as provided in § 35.2020(a), sums not obligated at the end of that period shall be subject to reallocation on the basis of the same ratio as applicable to the then-current

fiscal year, but none of the funds reallocated shall be made available to any State which failed to obligate any of the fiscal year funds being reallocated. Any sum made available to a State by reallocation under this section shall be in addition to any funds otherwise allotted to such State for grants under this subpart during any fiscal year and the reallocated funds shall remain available for obligation until the last day of the fiscal year following the fiscal year in which the reallocated funds are issued by the Comptroller to the Regional Administrator.

(c) Except for funds appropriated for FY 72 and fiscal years prior to 1972, sums which are deobligated and reissued by the Comptroller to the Regional Administrator before their reallocation date shall be available for obligation in the same State and treated in the same manner as the allotment from which such funds were derived.

(d) Except for funds appropriated for FY 72 and fiscal years prior to 1972, deobligated sums which are reissued by the Comptroller to the Regional Administrator after their reallocation date shall be available for obligation in the same State until the last day of the fiscal year following the fiscal year in which the reissuance occurs.

(e) Deobligated FY 72 and prior to 1972 fiscal year funds, except 1964, 1965 and 1966 funds, will be credited to the allowances of the same Region from which such funds are recovered, and the Regional Administrator may determine how these recoveries are credited to the States within the Region.

§ 35.2015 State priority system and project priority list.

(a) *General.* The Regional Administrator will award grant assistance from annual allotments to projects on a State project priority list developed in accordance with an approved State priority system. The State priority system and list must be designed to achieve optimum water quality management consistent with the goals and requirements of the Act. All projects for building treatment works to be funded by EPA must be included on a State project priority list, except training facilities funded under section 109(b) of the Act and marine CSO projects funded under section 201(n)(2) of the Act.

(b) *State priority system.* The State priority system describes the methodology used to rank projects that are considered eligible for assistance. The priority system should give high priority to projects in priority water quality areas. The priority system may also include the administrative, management, and public participation

procedures required to develop and revise the State project priority list. The priority system includes at least the following elements:

(1) *Criteria.* (i) The priority system shall include at least the following criteria for ranking projects:

(A) The impairment of classified water uses resulting from existing municipal pollutant discharges; and

(B) The extent of surface or ground water use restoration or public health improvement resulting from the reduction in pollution.

(ii) The State may also include other criteria in its priority system for ranking projects, such as the use of innovative or alternative technology, the need to complete a waste treatment system for which a grant for a phase or segment was previously awarded; and the category of need and the existing population affected.

(iii) In ranking phased and segmented projects States must comply with § 35.2108.

(2) *Categories of need.* All projects must fit into at least one of the categories of need described in this paragraph to be eligible for funding, except as provided in paragraphs (b)(2)(iii) and (b)(2)(iv) of this section. States will have sole authority to determine the priority for each category of need.

(i) Before October 1, 1984, these categories of need shall include at least the following:

(A) Secondary treatment (category I);

(B) Treatment more stringent than secondary (category II);

(C) Infiltration/inflow correction (category IIIA);

(D) Major sewer system rehabilitation (category IIIB);

(E) New collector sewers and appurtenances (category IVA);

(F) New interceptors and appurtenances (category IVB);

(G) Correction of combined sewer overflows (category V).

(ii) After September 30, 1984, except as provided in paragraphs (b)(2)(iii) and (b)(2)(iv) of this section, these categories of need shall include only the following:

(A) Secondary treatment or any cost-effective alternative;

(B) Treatment more stringent than secondary or any cost-effective alternative;

(C) New interceptors and appurtenances; and

(D) Infiltration/inflow correction.

(iii) After September 30, 1984, up to 20 percent (as determined by the Governor) of a State's annual allotment may be used for categories of need other than those listed in paragraph (b)(2)(ii) of this section.

(iv) After September 30, 1984, the Governor may include in the priority system a category for projects needed to correct combined sewer overflows which result in impaired uses in priority water quality areas. Only projects which comply with the requirements of § 35.2024(a) may be included in this category.

(c) *Project priority list.* The State's annual project priority list is an ordered listing of projects for which the State expects Federal financial assistance. The priority list contains two portions: the fundable portion, consisting of those projects anticipated to be funded from funds available for obligation; and the planning portion, consisting of projects anticipated to be funded from future authorized allotments.

(1) The State shall develop the project priority list consistent with the criteria established in the approved priority system. In ranking projects, the State must also consider total funds available, needs and priorities set forth in areawide water quality management plans, and any other factors contained in the State priority system.

(2) The list shall include an estimate of the eligible cost of each project.

(d) *Public participation.* (1) In addition to any requirements in 40 CFR Part 25, the State shall hold public hearings as follows:

(i) Before submitting its priority system to the Regional Administrator for approval and before adopting any significant change to an approved priority system; and

(ii) Before submitting its annual project priority list to the Regional Administrator for acceptance and before revising its priority list unless the State agency and the Regional Administrator determine that the revision is not significant.

(iii) If the approved State priority system contains procedures for bypassing projects on the fundable portion of the priority list, such bypasses will not be significant revisions for purposes of this section.

(2) Public hearings may be conducted as directed in the State's continuing planning process document or may be held in conjunction with any regular public meeting of the State agency.

(e) *Regional Administrator review.* The State must submit its priority system, project priority list and revisions of the priority system or priority list to the Regional Administrator for review. The State must also submit each year, by August 31, a new priority list for use in the next fiscal year.

(1) After submission and approval of the initial priority system and submission and acceptance of the project priority lists under paragraph (c) of this section, the State may revise its priority system and list as necessary.

(2) The regional Administrator shall review the State priority system and any revisions to insure that they are designed to obtain compliance with the criteria established in accordance with paragraphs (b) and (d) of this section and the enforceable requirements of the Act as defined in § 35.2005(b)(15). The Regional Administrator shall complete review of the priority system within 30 days of receipt of the system from the State and will notify the State in writing of approval or disapproval of the priority system, stating any reasons for disapproval.

(3) The Regional Administrator will review the project priority list and any revisions to insure compliance with the State's approved priority system and the requirements of paragraph (c) of this section. The Regional Administrator will complete review of the project priority list within 30 days of receipt from the State and will notify the State in writing of acceptance or rejection, stating the reasons for the rejection. Any project which is not contained on an accepted current priority list will not receive funding.

(f) *Compliance with the enforceable requirements of the Act.* (1) Except as limited under paragraph (f)(2) of this section, the Regional Administrator, after a public hearing, shall require the removal of a specific project or portion thereof from the State project priority list if the Regional Administrator determines it will not contribute to compliance with the enforceable requirements of the Act.

(2) The Regional Administrator shall not require removal of projects in categories under paragraphs (b)(2)(i)(D) through (b)(2)(i)(G) of this section which do not meet the enforceable requirements of the Act unless the total Federal share of such projects would exceed 25 percent of the State's annual allotment.

§ 35.2020 Reserves.

In developing its priority list the State shall establish the reserves required or authorized under this section. The amount of each mandatory reserve shall be based on the allotment to each State from the annual appropriation under § 35.2010. The State may also establish other reserves which it determines appropriate.

(a) *Reserve for State management assistance grants.* Each State may request that the Regional Administrator

reserve, from the State's annual allotment, up to 4 percent of the State's allotment based on the amount authorized to be appropriated, or \$400,000, whichever is greater, for State management assistance grants under Subpart F of this part. Grants may be made from these funds to cover the costs of administering activities delegated or scheduled to be delegated to a State. Funds reserved for this purpose that are obligated by the end of the allotment period will be added to the amounts last allotted to a State. These funds shall be immediately available for obligation to projects in the same manner and to the same extent as the last allotment.

(b) *Reserve for alternative systems for small communities.* Each State with 25 percent or more rural population (as determined by population estimates of the Bureau of Census) shall reserve 4 percent of the State's annual allotment for alternatives to conventional treatment works for small communities. The Governor of any non-rural State may reserve up to 4 percent of that State's allotment for the same purpose.

(c) *Reserve for innovative and alternative technologies.* Each State shall reserve not less than 4 percent nor more than 7½ percent from its annual allotment to increase the Federal share of grant awards under § 35.2032 for projects which use innovative or alternative wastewater treatment processes and techniques. Of this amount not less than one-half of one percent of the State's allotment shall be set aside to increase the Federal share for projects using innovative processes and techniques.

(d) *Reserve for water quality management.* Each State shall reserve not less than \$100,000 nor more than 1 percent from its annual allotments, to carry out water quality management planning under § 35.2023, except that in the case of Guam, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands and the Commonwealth of the Northern Mariana, a reasonable amount shall be reserved for this purpose.

(e) *Reserve for Advances of Allowance.* Each State shall reserve a reasonable portion of its annual allotment not to exceed 10 percent for advances of allowance under § 35.2025. The Regional Administrator may waive this reserve requirement where a State can demonstrate that such a reserve is not necessary because no new facilities planning or design work requiring an advance and resulting in Step 3 grant awards is expected to begin during the period of availability of the annual allotment.

§ 35.2021 Reallocation of reserves.

(a) Mandatory portions of reserves under § 35.2020(b) through (e) shall be reallocated if not obligated during the allotment period. The State management assistance reserve under § 35.2020(a) is not subject to reallocation.

(b) States may request the Regional Administrator to release funds in optional reserves or optional portions of required reserves under § 35.2020(b) through (e) for funding projects at any time before the reallocation date. If these optional reserves are not obligated or released and obligated for other purposes before the reallocation date, they shall be subject to reallocation under § 35.2010(b).

(c) Funds deobligated from the mandatory portion of reserves under paragraphs (b) through (e) of § 35.2020 which are reissued by the Comptroller to the Regional Administrator before the initial reallocation date for those funds shall be returned to the same reserve. (See § 35.2010.)

§ 35.2023 Water quality management planning.

(a) From funds reserved under § 35.2020(d) the Regional Administrator shall make grants to the States to carry out water quality management planning including but not limited to:

(1) Identifying the most cost-effective and locally acceptable facility and non-point measures to meet and maintain water quality standards;

(2) Developing an implementation plan to obtain State and local financial and regulatory commitments to implement measures developed under paragraph (a)(1);

(3) Determining the nature, extent and causes of water quality problems in various areas of the State and interstate region, and reporting on these annually; and

(4) Determining which publicly owned treatment works should be constructed, in which areas and in what sequence, taking into account the relative degree of effluent reduction attained, the relative contributions to water quality of other point or nonpoint sources, and the consideration of alternatives to such construction, and implementing section 303(e) of the Act.

(b) In carrying out planning with grants made under paragraph (a), a State shall develop jointly with local, regional and interstate entities, a plan for carrying out the program and give funding priority to such entities and designated or undesignated public comprehensive planning organizations to carry out the purposes of this section.

§ 35.2024 Combined sewer overflows.

(a) *Grant assistance from State allotment.* As provided in § 35.2015(b)(2)(iv), after September 30, 1984, upon request from a State, the Administrator may award a grant under section 201(n)(1) of the Act from the State allotment for correction of combined sewer overflows provided that the project is on the project priority list, it addresses impaired uses in priority water quality areas which are due to the impacts of the combined sewer overflows and otherwise meets the requirements of this subpart. The State must demonstrate to the Administrator that the water quality goals of the Act will not be achieved without correcting the combined sewer overflows. The demonstration shall as a minimum prove that significant usage of the water for fishing and swimming will not be possible without the proposed project, and that the project will result in substantial restoration of an existing impaired use.

(b) *Separate fund for combined sewer overflows in marine waters.* (1) After September 30, 1982, the Administrator may award grants under section 201(n)(2) of the Act for addressing impaired uses or public health risks in priority water quality areas in marine bays and estuaries due to the impacts of combined sewer overflows. The Administrator may award such grants provided that the water quality benefits of the proposed project have been demonstrated by the State. The demonstration shall as a minimum prove that significant usage of the water for shellfishing and swimming will not be possible without the proposed project for correction of combined sewer overflows, and the proposed project will result in substantial restoration of an existing impaired use.

(2) The Administrator shall establish priorities for projects with demonstrated water quality benefits based upon the following criteria:

(i) Extent of water use benefits that would result, including swimming and shellfishing;

(ii) Relationship of water quality improvements to project costs; and

(iii) National and regional significance.

(3) If the project is a phase or segment of the proposed treatment works described in the facilities plan, the criteria in paragraph (b)(2) of this section must be applied to the treatment works described in the facilities plan and each segment proposed for funding.

(4) All requirements of this Subpart apply to grants awarded under section 201(n)(2) of the Act except §§ 35.2010,

35.2015, 35.2020, 35.2021, 35.2025(b), 35.2042, 35.2103, 35.2109, and 35.2202.

§ 35.2025 Allowance and advance of allowance.

(a) *Allowance.* Step 2+3 and Step 3 grant agreements will include an allowance for facilities planning and design of the project to be determined in accordance with Appendix B of this subpart.

(b) *Advance of allowance to potential grant applicants.* (1) After application by the State (see § 35.2040(d)), the Regional Administrator will award a grant to the State in the amount of the reserve under § 35.2020(e) to advance allowances to potential grant applicants for facilities planning and project design.

(2) The State may request that the right to receive payments under the grant be assigned to specified potential grant applicants.

(3) The State may provide advances of allowance only to small communities, as defined by the State, which would otherwise be unable to complete an application for a grant under § 35.2040 in the judgment of the State.

(4) The advance shall not exceed the Federal share of the estimate of the allowance for such costs which a grantee would receive under paragraph (a) of this section.

(5) In the event a Step 2+3 or Step 3 grant is not awarded to a recipient of an advance, the State may seek repayment of the advance on such terms and conditions as it may determine. When a State recovers such advances they shall be added to its most recent grant for advances of allowance.

§ 35.2030 Facilities planning.

(a) *General.* (1) Facilities planning consists of those necessary plans and studies which directly relate to treatment works needed to comply with enforceable requirements of the Act. Facilities planning will investigate the need for proposed facilities. Through a systematic evaluation of alternatives that are feasible in light of the unique demographic, topographic, hydrologic and institutional characteristics of the area, it will demonstrate that, except for innovative and alternative technology under § 35.2032, the selected alternative is cost effective (i.e., is the most economical means of meeting the applicable effluent, water quality and public health requirements over the design life of the facility while recognizing environmental and other non-monetary considerations). For sewerage communities with a population of 10,000 or less, consideration must be given to appropriate low cost

technologies such as facultative ponds, trickling filters, oxidation ditches, or overland-flow land treatment; and for unsewered portions of communities of 10,000 or less, consideration must be given to onsite systems. The facilities plan will also demonstrate that the selected alternative is implementable from legal, institutional, financial and management standpoints.

(2) Grant assistance may be awarded before certification of the completed facilities plan if:

(i) The Regional Administrator determines that applicable statutory and regulatory requirements (including Part 6) have been met; that the facilities planning related to the project has been substantially completed; and that the project for which grant assistance is awarded will not be significantly affected by the completion of the facilities plan and will be a component part of the complete waste treatment system; and

(ii) The applicant agrees to complete the facilities plan on a schedule the State accepts and such schedule is inserted as a special condition of the grant agreement.

(b) *Facilities plan contents.* A completed facilities plan must include:

(1) A description of both the proposed treatment works, and the complete waste treatment system of which it is a part.

(2) A description of the Best Practicable Wastewater Treatment Technology. (See § 35.2005(b)(7).)

(3) A cost-effectiveness analysis of the feasible conventional, innovative and alternative wastewater treatment works, processes and techniques capable of meeting the applicable effluent, water quality and public health requirements over the design life of the facility while recognizing environmental and other non-monetary considerations. The planning period for the cost-effectiveness analysis shall be 20 years. The monetary costs to be considered must include the present worth or equivalent annual value of all capital costs and operation and maintenance costs. The discount rate established by EPA for the construction grants program shall be used in the cost-effectiveness analysis. The population forecasting in the analysis shall be consistent with the current Needs Survey. A cost-effectiveness analysis must include:

(i) An evaluation of alternative flow reduction methods. (If the grant applicant demonstrates that the existing average daily base flow (ADBF) from the area is less than 70 gallons per capita per day (gpcd), or if the Regional Administrator determines the area has

an effective existing flow reduction program, additional flow reduction evaluation is not required.)

(ii) A description of the relationship between the capacity of alternatives and the needs to be served, including capacity for future growth expected after the treatment works become operational. This includes letters of intent from significant industrial users and all industries intending to increase their flows or relocate in the area documenting capacity needs and characteristics for existing or projected flows;

(iii) An evaluation of improved effluent quality attainable by upgrading the operation and maintenance and efficiency of existing facilities as an alternative or supplement to construction of new facilities;

(iv) An evaluation of the alternative methods for the reuse or ultimate disposal of treated wastewater and sludge material resulting from the treatment process;

(v) A consideration of systems with revenue generating applications;

(vi) An evaluation of opportunities to reduce use of, or recover energy;

(vii) Cost information on total capital costs, and annual operation and maintenance costs, as well as estimated annual or monthly costs to residential and industrial users.

(4) A demonstration of the non-existence or possible existence of excessive infiltration/inflow in the sewer system. See § 35.2120.

(5) An analysis of the potential open space and recreation opportunities associated with the project.

(6) An adequate evaluation of the environmental impacts of alternatives under Part 6 of this chapter.

(7) An evaluation of the water supply implications of the project.

(8) For the selected alternative, a concise description at an appropriate level of detail, of at least the following:

(i) Relevant design parameters;

(ii) Estimated capital construction and operation and maintenance costs, (identifying the Federal, State and local shares), and a description of the manner in which local costs will be financed;

(iii) Estimated cost of future expansion and long-term needs for reconstruction of facilities following their design life;

(iv) Cost impacts on wastewater system users; and

(v) Institutional and management arrangements necessary for successful implementation.

(c) *Submission and review of facilities plan.* Each facilities plan must be submitted to the State for review. EPA recommends that potential grant

applicants confer with State reviewers early in the facilities planning process. In addition, a potential grant applicant may request in writing from the State and EPA an early determination under Part 6 of this chapter of the appropriateness of a categorical exclusion from NEPA requirements, the scope of the environmental information document or the early preparation of an environmental impact statement.

§ 35.2032 Innovative and alternative technologies.

(a) *Funding for innovative and alternative technologies.* Projects or portions of projects using unit processes or techniques which the Regional Administrator determines to be innovative or alternative technology shall receive increased grants under § 35.2152.

(1) Only funds from the reserve in § 35.2020(c) shall be used to increase these grants.

(2) If the project is an alternative to conventional treatment works for a small community, funds from the reserve in § 35.2020(b) may be used for the 75 percent portion, or any lower Federal share of the grant as determined under § 35.2152.

(b) *Cost-effectiveness preference.* The Regional Administrator may award grant assistance for a treatment works or portion of a treatment works using innovative or alternative technologies if the total present worth cost of the treatment works for which the grant is to be made does not exceed the total present worth cost of the most cost-effective alternative by more than 15 percent.

(1) Privately-owned individual systems (§ 35.2034) are not eligible for this preference.

(2) If the present worth costs of the innovative or alternative unit processes are 50 percent or less of the present worth cost of the treatment works, the cost-effectiveness preference applies only to the innovative or alternative components.

(c) *Modification or replacement of innovative and alternative projects.* The Regional Administrator may award grant assistance to fund 100 percent of the allowable costs of the modification or replacement of any project funded with increased grant funding in accordance with paragraph (a) of this section if he determines that:

(1) The innovative or alternative elements of the project have caused the project or significant elements of the complete waste treatment system of which the project is a part to fail to meet project performance standards;

(2) The failure has significantly increased operation and maintenance expenditures for the project or the complete waste treatment system of which the project is a part; or requires significant additional capital expenditures for corrective action;

(3) The failure has occurred prior to two years after initiation of operation of the project; and

(4) The failure is not attributable to negligence on the part of any person.

§ 35.2034 Privately owned individual systems.

(a) An eligible applicant may apply for a grant to build privately owned treatment works serving one or more principal residences or small commercial establishments.

(b) In addition to those applicable limitations set forth in § 35.2100 through § 35.2127 the grant applicant shall:

(1) Demonstrate that the total cost and environmental impact of building the individual system will be less than the cost of a conventional system;

(2) Certify that the principal residence or small commercial establishment was constructed before December 27, 1977, and inhabited or in use on or before that date;

(3) Apply on behalf of a number of individual units to be served in the facilities planning area;

(4) Certify that public ownership of such works is not feasible and list the reasons; and

(5) Certify that such treatment works will be properly operated and maintained and will comply with all other requirements of section 204 of the Act.

§ 35.2040 Grant application.

Applicants for Step 2+3 or Step 3 assistance shall submit applications to the State. In addition to the information required in Parts 30 and 33 of this subchapter, applicants shall provide the following information:

(a) *Step 2+3: Combined design and building of a treatment works and building related services and supplies.* An application (EPA form 5700-32) for Step 2+3 grant assistance shall include:

(1) A facilities plan prepared in accordance with Subpart E or I as appropriate;

(2) Certification from the State that there has been adequate public participation based on State and local statutes;

(3) Notification of any advance received under § 35.2025(b); and

(4) Evidence of compliance with all applicable limitations on award (§§ 35.2100 through 35.2127).

(b) *Step 3: Building of a treatment works and related services and supplies.* An application (EPA form 5700-32) for Step 3 grant assistance shall include:

(1) A facilities plan prepared in accordance with Subpart E or I as appropriate;

(2) Certification from the State that there has been adequate public participation based on State and local statutes;

(3) Notification of any advance received under § 35.2025(b);

(4) Evidence of compliance with all applicable limitations on award (§§ 35.2100 through 35.2127);

(5) Final design drawings and specifications;

(6) The project schedule; and

(7) In the case of an application for Step 3 assistance that is solely for the acquisition of eligible real property, a plat which shows the legal description of the property to be acquired, a preliminary layout of the distribution and drainage systems, and an explanation of the intended method of acquiring the real property (see 40 CFR Part 4).

(c) *Training facility project.* An application (EPA form 5700-32) for a grant for construction and support of a training facility, facilities or training programs under section 109(b) of the Act shall include:

(1) A written commitment from the State agency to carry out at such facility a program of training; and

(2) If a facility is to be built, an engineering report including facility design data and cost estimates for design and building.

(d) *Advances of allowance.* State applications for advances of allowance to small communities shall be on EPA form 5700-31, Application for Federal Assistance (short form). The application shall include:

(1) A list of communities that received an advance of allowance and the amount received by each under the previous State grant; and

(2) The basis for the amount requested.

(e) *Field Testing of Innovative and Alternative Technology.* An application (EPA Form 5700-32) for field testing of I/A projects shall include a field testing plan containing:

(1) Identification; including size, of all principal components to be tested;

(2) Location of testing facilities in relationship to full scale design;

(3) Identification of critical design parameters and performance variables that are to be verified as the basis for I/A determinations;

(4) Schedule for construction of field testing facilities and duration of proposed testing;

(5) Capital and O&M cost estimate of field testing facilities with documentation of cost effectiveness of field testing approach; and

(6) Design drawing, process flow diagram, equipment specification and related engineering data and information sufficient to describe the overall design and proposed performance of the field testing facility.

(f) *Marine CSO Project.* An application (EPA Form 5700-32) for marine CSO grant assistance under § 35.2024(b) shall include:

(1) All information required under paragraphs (b)(1), (b)(2), (b)(4), (b)(6), and (b)(7), of this section;

(2) Final design drawings and specifications or a commitment to provide them by a date set by the Regional Administrator; and

(3) The water quality benefits demonstration required under § 35.2024(b)(1).

(Approved by the Office of Management and Budget under control number 2040-0027)

§ 35.2042 Review of grant applications.

(a) All States shall review grant applications to ensure that they are complete. When the State determines the proposed project is entitled to priority it shall forward the State priority certification and, except where application review is delegated, the complete application to the regional Administrator for review.

(b)(1) All States delegated authority to manage the construction grants program under section 205(g) of the Act and Subpart F of this part shall furnish a written certification to the Regional Administrator, on a project-by-project basis, stating that the applicable Federal requirements within the scope of authority delegated to the State under the delegation agreement have been met. The certification must be supported by documentation specified in the delegation agreement which will be made available to the Regional Administrator upon request. The Regional Administrator shall accept the certification unless he determines the State has failed to establish adequate grounds for the certification or that an applicable requirement has not been met.

(2)(i) When EPA receives a certification covering all delegable preaward requirements, the Regional Administrator shall approve or disapprove the grant within 45 calendar days of receipt of the certification. The Regional Administrator shall state in writing the reasons for any disapproval,

and he shall have an additional 45 days to review any subsequent revised submissions. If the Regional Administrator fails to approve or disapprove the grant within 45 days of receipt of the application, the grant shall be deemed approved and the Regional Administrator shall issue the grant agreement.

(ii) Grant increase requests are subject to the 45 day provision of this section if the State has been delegated authority over the subject matter of the request.

(c) Applications for assistance for training facilities funded under section 109(b) and for State advances of allowance under section 201(l)(1) of the Act and § 35.2025 will be reviewed in accordance with Part 30 of this subchapter.

(Approved by the Office of Management and Budget under control number 2040-0027)

§ 35.2050 Effect of approval or certification of documents.

Review or approval of facilities plans, design drawings and specifications or other documents by or for EPA is for administrative purposes only and does not relieve the grantee of its responsibility to properly plan, design, build and effectively operate and maintain the treatment works described in the grant agreement as required under law, regulations, permits, and good management practices. EPA is not responsible for increased costs resulting from defects in the plans, design drawings and specifications or other subagreement documents.

§ 35.2100 Limitations on award.

Before awarding grant assistance for any project the Regional Administrator shall approve the facilities plan and final design drawings and specifications, and determine that the applicant and the applicant's project have met all of the applicable requirements of § 35.2040 and §§ 35.2100 through 35.2127 except as provided in § 35.2202 for Step 2+3 projects.

§ 35.2101 Advanced treatment.

Projects proposing advanced treatment shall be awarded grant assistance only after the project has been reviewed under EPA's advanced treatment review policy. This review must be completed before submission of any application. EPA recommends that potential grant applicants obtain this review before initiation of design.

§ 35.2102 Water quality management plans.

The project shall be consistent with the approved elements of any applicable

water quality management (WQM) plan approved under section 208 or section 303(e) of the Act; and the applicant shall be the wastewater management agency designated in that WQM plan.

§ 35.2103 Priority determination.

The project shall be entitled to priority in accordance with § 35.2015, and the award of grant assistance for the project shall not jeopardize the funding of any project of higher priority under the approved priority system.

§ 35.2104 Funding and other considerations.

The applicant shall:

- (a) Agree to pay the non-Federal project costs;
- (b) Demonstrate the legal, institutional, managerial, and financial capability to ensure adequate building and operation and maintenance of the treatment works throughout the applicant's jurisdiction including the ability to comply with Part 30 of this subchapter. This demonstration must include: an explanation of the roles and responsibilities of the local governments involved; how construction and operation and maintenance of the facilities will be financed; a current estimate of the cost of the facilities; and a calculation of the annual costs per household. It must also include a written certification signed by the applicant that the applicant has analyzed the costs and financial impacts of the proposed facilities, and that it has the capability to finance and manage their building and operation and maintenance in accordance with this regulation;
- (c) Certify that it has not violated any Federal, State or local law pertaining to fraud, bribery, graft, kickbacks, collusion, conflict of interest or other unlawful or corrupt practice relating to or in connection with facilities planning or design work on a wastewater treatment works project.
- (d) Indicate the level of participation for minority and women's business enterprises during facilities planning and design of the project.

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§ 35.2105 Debarment and suspension.

The applicant shall indicate whether it used the services of any individual, organization, or unit of government for facilities planning or design work whose name appears on the master list of debarments, suspensions, and voluntary exclusions. See 40 CFR 32.400. If the applicant indicates it has used the services of a debarred individual or firm, EPA will closely examine the facilities plan, design drawings and

specifications to determine whether to award a grant. EPA will also determine whether the applicant should be found non-responsible under Part 30 of this subchapter or be the subject of possible debarment or suspension under Part 32 of this subchapter.

§ 35.2106 Plan of operation.

The applicant shall submit a draft plan of operation that addresses development of: An operation and maintenance manual; an emergency operating program; personnel training; an adequate budget consistent with the user charge system approved under § 35.2140; operational reports; laboratory testing needs; and an operation and maintenance program for the complete waste treatment system.

§ 35.2107 Intermunicipal service agreements.

If the project will serve two or more municipalities, the applicant shall submit the executed intermunicipal agreements, contracts or other legally binding instruments necessary for the financing, building and operation of the proposed treatment works. At a minimum they must include the basis upon which costs are allocated, the formula by which costs are allocated, and the manner in which the cost allocation system will be administered. The Regional Administrator may waive this requirement provided the applicant can demonstrate:

- (a) That such an agreement is already in place; or
- (b) Evidence of historic service relationships for water supply, wastewater or other services between the affected communities regardless of the existence of formal agreements, and
- (c) That the financial strength of the supplier agency is adequate to continue the project, even if one of the proposed customer agencies fails to participate.

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§ 35.2108 Phased or segmented treatment works.

Grant funding may be awarded for a phase or segment of a treatment works, subject to the limitations of § 35.2123, although that phase or segment does not result in compliance with the enforceable requirements of the Act, provided:

- (a) The grant agreement requires the recipient to make the treatment works of which the phase or segment is a part operational and comply with the enforceable requirements of the Act according to a schedule specified in the grant agreement regardless of whether

grant funding is available for the remaining phases and segments; and

(b) Except in the case of a grant solely for the acquisition of eligible real property, one or more of the following conditions exist:

(1) The Federal share of the cost of building the treatment works would require a disproportionate share of the State's annual allotment relative to other needs or would require a major portion of the State's annual allotment;

(2) The period to complete the building of the treatment works will cover three years or more; or

(3) The treatment works must be phased or segmented to meet the requirements of a Federal or State court order.

§ 35.2109 Step 2+3.

The Regional Administrator may award a Step 2+3 grant which will provide the Federal share of an allowance under Appendix B and the estimated allowable cost of the project only if:

- (a) The population of the applicant municipality is 25,000 or less according to the most recent U.S. Census;
- (b) The total Step 3 building cost is estimated to be \$8 million or less; and
- (c) The project is not for a treatment works phase or segment.

§ 35.2110 Access to individual systems.

Applicants for privately owned individual systems shall provide assurance of access to the systems at all reasonable times for such purposes as inspection, monitoring, building, operation, rehabilitation and replacement.

§ 35.2111 Revised water quality standards.

After December 29, 1984, no grant assistance can be awarded in a State for stream segments which have not had their water quality standards reviewed and revised, as appropriate, or new standards adopted under section 303(c) of the Act, unless the State has in good faith submitted such water quality standards and the Regional Administrator has failed to act on them within 120 days of receipt.

§ 35.2112 Marine discharge waiver applicants.

If the applicant is also an applicant for a secondary treatment requirement waiver under section 301(h) of the Act, a plan must be submitted which contains a modified scope of work, a schedule for completion of the less-than-secondary facility and an estimate of costs providing for building the proposed less-than-secondary facilities, including

provisions for possible future additions of treatment processes or techniques to meet secondary treatment requirements.

§ 35.2113 Environmental review.

(a) The environmental review required by Part 6 of this Chapter must be completed before submission of any application. The potential applicant should work with the State and EPA as early as possible in the facilities planning process to determine if the project qualifies for a categorical exclusion from Part 6 requirements, or whether a finding of no significant impact or an environmental impact statement is required.

(b) In conjunction with the facilities planning process as described in § 35.2030(c), a potential applicant may request, in writing, that EPA make a formal determination under Part 6 of this chapter.

§ 35.2114 Value engineering.

(a) If the project has not received Step 2 grant assistance the applicant shall conduct value engineering if the total estimated cost of building the treatment works is more than \$10 million.

(b) The value engineering recommendations shall be implemented to the maximum extent feasible.

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§ 35.2116 Collection system.

Except as provided in § 35.2032(c), if the project involves collection system work, such work:

(a) Shall be for the replacement or major rehabilitation of an existing collection system which was not built with Federal funds awarded on or after October 18, 1972, and shall be necessary to the integrity and performance of the complete waste treatment system; or

(b) Shall be for a new cost-effective collection system in a community in existence on October 18, 1972, which has sufficient existing or planned capacity to adequately treat such collected wastewater and where the bulk (generally two-thirds) of the expected flow (flow from existing plus future residential users) will be from the resident population on October 18, 1972. The expected flow will be subject to the limitations for interceptors contained in § 35.2123. If assistance is awarded, the grantee shall provide assurances that the existing population will connect to the collection system within a reasonable time after project completion.

§ 35.2118 Preaward costs.

(a) EPA will not award grant assistance for Step 2+3 and Step 3 work

performed before award of grant assistance for that project, except:

(1) In emergencies or instances where delay could result in significant cost increases, the Regional Administrator may approve preliminary Step 3 work (such as procurement of major equipment requiring long lead times, field testing of innovative and alternative technologies, minor sewer rehabilitation, acquisition of eligible land, or of an option for the purchase of eligible land or advance building of minor portions of treatment works), after completion of the environmental review as required by § 35.2113.

(2) If the Regional Administrator approves preliminary Step 3 work, such approval is not an actual or implied commitment of grant assistance and the applicant proceeds at its own risk.

(b) Any procurement is subject to the requirements of 40 CFR Part 33, and in the case of acquisition of eligible real property, 40 CFR Part 4.

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§ 35.2120 Infiltration/inflow.

(a) *General.* The applicant shall demonstrate to the Regional Administrator's satisfaction that each sewer system discharging into the proposed treatment works project is not or will not be subject to excessive infiltration/inflow. For combined sewers, inflow is not considered excessive in any event.

(b) *Inflow.* If the rainfall induced peak inflow rate results or will result in chronic operational problems during storm events, the applicant shall perform a study of the sewer system to determine the quantity of excessive inflow and to propose a rehabilitation program to eliminate the excessive inflow. All cases in which facilities are planned for the specific storage and/or treatment of inflow shall be subject to a cost-effectiveness analysis.

(c) *Infiltration.* (1) If the flow rate at the existing treatment facility is 120 gallons per capita per day or less during periods of high groundwater, the applicant shall build the project including sufficient capacity to transport and treat any existing infiltration. However, if the applicant believes any specific portion of its sewer system is subject to excessive infiltration, the applicant may confirm its belief in a cost-effectiveness analysis and propose a sewer rehabilitation program to eliminate that specific excessive infiltration.

(2) If the flow rate at the existing treatment facility is more than 120 gallons per capita per day during

periods of high groundwater, the applicant shall either:

(i) Perform a study of the sewer system to determine the quantity of excessive infiltration and to propose a sewer rehabilitation program to eliminate the excessive infiltration; or

(ii) If the flow rate is not significantly more than 120 gallons per capita per day, request the Regional Administrator to determine that he may proceed without further study, in which case the allowable project cost will be limited to the cost of a project with a capacity of 120 gallons per capita per day under Appendix A.G.2.a.

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§ 35.2122 Approval of user charge system and proposed sewer use ordinance.

If the project is for Step 3 grant assistance, unless it is solely for acquisition of eligible land, the applicant must obtain the Regional Administrator's approval of its user charge system (§ 35.2140) and proposed (or existing) sewer use ordinance (§ 35.2130). If the applicant has a sewer use ordinance or user charge system in effect, the applicant shall demonstrate to the Regional Administrator's satisfaction that they meet the requirements of this Part and are being enforced.

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§ 35.2123 Reserve capacity.

EPA will limit grant assistance for reserve capacity as follows:

(a) If EPA awarded a grant for a Step 3 interceptor segment before December 29, 1981, EPA may award grants for remaining interceptor segments included in the facilities plan with reserve capacity as planned, up to 40 years.

(b) Except as provided in paragraph (a) of this section, if EPA awards a grant for a Step 3 or Step 3 segment of a primary, secondary, or advanced treatment facility or its interceptors included in the facilities plan before October 1, 1984, the grant for that Step 3 or Step 3 segment, and any remaining segments, may include 20 years reserve capacity.

(c) Except as provided in paragraph (b) of this section, after September 30, 1984, no grant shall be made to provide reserve capacity for a project for secondary treatment or more stringent treatment or new interceptors and appurtenances. Grants for such projects shall be based on capacity necessary to serve existing needs (including existing needs of residential, commercial, industrial, and other users) as

determined on the date of the approval of the Step 3 grant. Grant assistance awarded after September 30, 1990 shall be limited to the needs existing on September 30, 1990.

(d) For any application with capacity in excess of that provided by this section:

(1) All incremental costs shall be paid by the applicant. Incremental costs include all costs which would not have been incurred but for the additional excess capacity, i.e., any cost in addition to the most cost-effective alternative with eligible reserve capacity described under paragraphs (a) and (b) of this section.

(2) It must be determined that the actual treatment works to be built meets the requirements of the National Environmental Policy Act and all applicable laws and regulations.

(3) The Regional Administrator shall approve the plans, specifications and estimates for the actual treatment works.

(4) The grantee shall assure the Regional Administrator satisfactorily that it has assessed the costs and financial impacts of the actual treatment works and has the capability to finance and manage their construction and operation.

(5) The grantee must implement a user charge system which applies to the entire service area of the grantee.

(6) The grantee shall execute appropriate grant conditions or releases protecting the Federal Government from any claim for any of the costs of construction due to the additional capacity.

§ 35.2125 Treatment of wastewater from industrial users.

(a) Grant assistance shall not be provided for a project unless the project is included in a complete waste treatment system and the principal purpose of both the project and the system is for the treatment of domestic wastewater of the entire community, area, region or district concerned.

(b) Allowable project costs do not include:

(1) Costs of interceptor or collector sewers constructed exclusively, or almost exclusively, to serve industrial users; or

(2) Costs for control or removal of pollutants in wastewater introduced into the treatment works by industrial users, unless the applicant is required to remove such pollutants introduced from nonindustrial users.

§ 35.2127 Federal facilities.

Grant assistance shall not be provided for costs to transport or treat

wastewater produced by a facility that is owned and operated by the Federal government which contributes more than 250,000 gallons per day or five percent of the design flow of the complete waste treatment system, whichever is less.

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§ 35.2130 Sewer use ordinance.

The sewer use ordinance (see also §§ 35.2122 and 35.2208) or other legally binding document shall prohibit any new connections from inflow sources into the treatment works and require that new sewers and connections to the treatment works are properly designed and constructed. The ordinance or other legally binding document shall also require that all wastewater introduced into the treatment works not contain toxics or other pollutants in amounts or concentrations that endanger public safety and physical integrity of the treatment works; cause violation of effluent or water quality limitations; or preclude the selection of the most cost-effective alternative for wastewater treatment and sludge disposal.

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§ 35.2140 User charge system.

The user charge system (see §§ 35.2122 and 35.2208) must be designed to produce adequate revenues required for operation and maintenance (including replacement). It shall provide that each user which discharges pollutants that cause an increase in the cost of managing the effluent or sludge from the treatment works shall pay for such increased cost. The user charge system shall be based on either actual use under paragraph (a) of this section, ad valorem taxes under paragraph (b) of this section, or a combination of the two.

(a) *User charge system based on actual use.* A grantee's user charge system based on actual use (or estimated use) of wastewater treatment services shall provide that each user (or user class) pays its proportionate share of operation and maintenance (including replacement) costs of treatment works within the grantee's service area, based on the user's proportionate contribution to the total wastewater loading from all users (or user classes).

(b) *User charge system based on ad valorem taxes.* A grantee's user charge system which is based on ad valorem taxes may be approved if:

(1) On December 27, 1977, the grantee had in existence a system of dedicated ad valorem taxes which collected revenues to pay the cost of operation and maintenance of wastewater

treatment works within the grantee's service area and the grantee has continued to use that system;

(2) The ad valorem user charge system distributes the operation and maintenance (including replacement) costs for all treatment works in the grantee's jurisdiction to the residential and small non-residential user class (including at the grantee's option nonresidential, commercial and industrial users that introduce no more than the equivalent of 25,000 gallons per day of domestic sanitary wastes to the treatment works), in proportion to the use of the treatment works by this class; and

(3) Each member of the industrial user and commercial user class which discharges more than 25,000 gallons per day of sanitary waste pays its share of the costs of operation and maintenance (including replacement) of the treatment works based upon charges for actual use.

(c) *Notification.* Each user charge system must provide that each user be notified, at least annually, in conjunction with a regular bill (or other means acceptable to the Regional Administrator), of the rate and that portion of the user charges or ad valorem taxes which are attributable to wastewater treatment services.

(d) *Financial management system.* Each user charge system must include an adequate financial management system that will accurately account for revenues generated by the system and expenditures for operation and maintenance (including replacement) of the treatment system, based on an adequate budget identifying the basis for determining the annual operation and maintenance costs and the costs of personnel, material, energy and administration.

(e) *Charges for operation and maintenance for extraneous flows.* The user charge system shall provide that the costs of operation and maintenance for all flow not directly attributable to users (i.e., infiltration/inflow) be distributed among all users based upon either of the following:

(1) In the same manner that it distributes the costs for their actual use, or

(2) Under a system which uses one or any combination of the following factors on a reasonable basis:

- (i) Flow volume of the users;
- (ii) Land area of the users;
- (iii) Number of hookups or discharges of the users;
- (iv) Property valuation of the users, if the grantee has an approved user charge system based on ad valorem taxes.

(f) After completion of building a project, revenue from the project (e.g., sale of a treatment-related by-product; lease of the land; or sale of crops grown on the land purchased under the grant agreement) shall be used to offset the costs of operation and maintenance. The grantee shall proportionately reduce all user charges.

(g) *Adoption of system.* One or more municipal legislative enactments or other appropriate authority must incorporate the user charge system. If the project accepts wastewater from other municipalities, the subscribers receiving waste treatment services from the grantee shall adopt user charge systems in accordance with this section. These user charge systems shall also be incorporated in appropriate municipal legislative enactments or other appropriate authority of all municipalities contributing wastes to the treatment works.

(h) *Inconsistent agreements.* The user charge system shall take precedence over any terms or conditions of agreements or contracts which are inconsistent with the requirements of section 204(b)(1)(A) of the Act and this section.

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§ 35.2152 Federal share.

(a) *General.* The Federal share for each project shall be based on the sum of the total Step 3 allowable costs and the allowance established in the grant agreement under Appendix B. Except as provided elsewhere in this section, the Federal share shall be:

- (1) 75 percent for grant assistance awarded before October 1, 1984;
- (2) 55 percent for grant assistance awarded after September 30, 1984, except as provided in paragraph (a)(3) of this section; and
- (3) Subject to paragraph (c) of this section, 75 percent for grant assistance awarded after September 30, 1984, for sequential phases or segments of a primary, secondary, or advanced treatment facility or its interceptors, or infiltration/inflow correction provided:
 - (i) The treatment works being phased or segmented is described in a facilities plan approved by the Regional Administrator before October 1, 1984;
 - (ii) The Step 3 grant for the initial phase or segment of the treatment works described in (a)(3)(i) of this section is awarded prior to October 1, 1984; and
 - (iii) The phase or segment that receives 75 percent funding is necessary to (A) make a phase or segment previously funded by EPA operational and comply with the enforceable requirements of the Act, or (B) complete

the treatment works referenced in (a)(3)(i) of this section provided that all phases or segments previously funded by EPA are operational and comply with the enforceable requirements of the Act.

(b) *Innovative and alternative technology.* In accordance with § 35.2032, the Federal share for eligible treatment works or unit processes and techniques that the Regional Administrator determines meet the definition of innovative or alternative technology shall be 20 percent greater than the Federal share under paragraph (a) or (c) of this section, but in no event shall the total Federal share be greater than 85 percent. This increased Federal share depends on the availability of funds from the reserve under § 35.2020. The proportional State contribution to the non-Federal share of building costs for I/A projects must be the same as or greater than the proportional State contribution (if any) to the non-Federal share of eligible building costs for all treatment works which receive 75 or 55 percent grants or such other Federal share under paragraph (c) of this section in the State.

(c) *Uniform lower Federal share.* (1) Except as provided in § 35.2032 (c) and (d) of this section, the Governor of a State may request the Regional Administrator's approval to revise uniformly throughout the State the Federal share of grant assistance for all future projects. The revised Federal share must apply to all needs categories (see § 35.2015(b)(2)).

(2) After EPA awards grant assistance for a project, the Federal share shall be the same for any grant increase that is within the scope of the project.

(d) *Training Facilities.* The Federal share of treatment works required to train and upgrade waste treatment works operations and maintenance personnel may be up to 100 percent of the allowable cost of the project.

(1) Where a grant is made to serve two or more States, the Administrator is authorized to make an additional grant for a supplemental facility in each State. The Federal funds awarded to any State under section 109(b) for all training facilities shall not exceed \$500,000.

(2) Any grantee who received a grant under section 109(b) before December 27, 1977, may have the grant increased up to \$500,000 by funds made available under the Act, not to exceed 100 percent of the allowable costs.

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§ 35.2200 Grant conditions.

In addition to the EPA General Grant Conditions (Part 30 of this subchapter), each treatment works grant shall be

subject to the conditions under §§ 35.2202 through 35.2218.

§ 35.2202 Step 2+3 projects.

(a) Prior to initiating action to acquire eligible real property, a Step 2+3 grantee shall submit for Regional Administrator review and written approval the information required under § 35.2040(b)(7).

(b) Before initiating procurement action for the building of the project, a Step 2+3 grantee shall submit for the Regional Administrator's review and written approval the information required under §§ 35.2040 (b)(5) and (b)(6), 35.2106, 35.2107, 35.2130 and 35.2140.

§ 35.2204 Project changes.

(a) Minor changes in the project work that are consistent with the objectives of the project and within the scope of the grant agreement do not require the execution of a formal grant amendment before the grantee's implementation of the change. However, the amount of the funding provided by the grant agreement may only be increased by a formal grant amendment.

(b) The grantee must receive from the Regional Administrator a formal grant amendment before implementing changes which:

- (1) Alter the project performance standards;
- (2) Alter the type of wastewater treatment provided by the project;
- (3) Significantly delay or accelerate the project schedule;
- (4) Substantially alter the facilities plan, design drawings and specifications, or the location, size, capacity, or quality of any major part of the project; or
- (5) Otherwise require a formal grant amendment under Part 30 of this subchapter.

§ 35.2206 Operation and maintenance.

(a) The grantee must assure economical and effective operation and maintenance (including replacement) of the treatment works.

(b) Except as provided in paragraphs (c)(1) and (c)(2) of this section, the Regional Administrator shall not pay more than 50 percent of the Federal share of any project unless the grantee has furnished and the Regional Administrator has approved the final plan of operation required by § 35.2106, and shall not pay more than 90 percent of the Federal share of any project unless the grantee has furnished and the Regional Administrator has approved an operation and maintenance manual.

(c)(1) In projects where segmenting of a proposed treatment works has occurred, the Regional Administrator shall not pay more than 90 percent of the Federal share of the total allowable costs of the proposed treatment works until the grantee has furnished and the Regional Administrator has approved an operation and maintenance manual.

(2) In projects where a component is placed in operation before completion of the entire project, the Regional Administrator shall not make any additional payment on that project until a final operation and maintenance manual for the operating component is furnished and approved.

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§ 35.2208 Adoption of sewer use ordinance and user charge system.

The grantee shall adopt its sewer use ordinance and implement its user charge system developed under §§ 35.2130 and 35.2140 before the treatment works is placed in operation. Further, the grantee shall implement the user charge system and sewer use ordinance for the useful life of the treatment works.

§ 35.2210 Land acquisition.

The grantee shall not acquire real property determined allowable for grant assistance until the Regional Administrator has determined that applicable provisions of 40 CFR Part 4 have been met.

§ 35.2211 Field testing for innovative and alternative technology report.

The grantee shall submit a report containing the procedure, cost, results and conclusions of any field testing. The report shall be submitted to the Regional Administrator in accordance with a schedule to be specified in the grant agreement.

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§ 35.2212 Project initiation.

(a) The grantee shall expeditiously initiate and complete the project, in accordance with the project schedule contained in the grant application and agreement. Failure to promptly initiate and complete a project may result in the imposition of sanctions under Part 30 of this subchapter.

(b) The grantee shall initiate procurement action for building the project promptly after award of a Step 3 grant or after receiving written approval of the information required under § 35.2202 under a Step 2+3 grant. Public notice of proposed procurement action should be made promptly after Step 3 award or final approvals for a Step 2+3

grant under § 35.2202. The grantee shall award the subagreement(s) and issue notice(s) to proceed, where required, for building all significant elements of the project within twelve months of the Step 3 award or final Step 2+3 approvals.

(c) Failure to promptly award all subagreement(s) for building the project will result in a limitation on allowable costs. (See Appendix A, A.2.e.).

(d) The grantee shall notify the Regional Administrator immediately upon award of the subagreement(s) for building all significant elements of the project (see 40 CFR 33.211).

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§ 35.2214 Grantee responsibilities.

(a) The grantee shall complete the project in accordance with the grant agreement including: the facilities plan that establishes the need for the project; the design drawings and specifications; the plan of operation under § 35.2106 that identifies the basis to determine annual operating costs; the financial management system under § 35.2140(d) that adequately accounts for revenues and expenditures; the user charge system under § 35.2140 that will generate sufficient revenue to operate and maintain the treatment works; the project schedule; and all other applicable regulations. The grantee shall maintain and operate the project to meet project performance standards including the enforceable requirements of the Act for the design life.

(b) The grantee shall provide the architectural and engineering services and other services necessary to fulfill the obligation in paragraph (a) of this section.

§ 35.2216 Notice of building completion and final inspection.

The grantee shall notify the Regional Administrator when the building of the project is complete. Final inspection shall be made by the Regional Administrator after receipt of the notice of building completion.

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§ 35.2218 Project performance.

(a) The grantee shall notify the Regional Administrator in writing of the actual date of initiation of operation.

(b) Subject to the provisions of 40 CFR Part 33, the grantee shall select the engineer or engineering firm principally responsible for either supervising construction or providing architectural and engineering services during construction as the prime engineer to provide the following services during the

first year following the initiation of operation:

(1) Direct the operation of the project and revise the operation and maintenance manual as necessary to accommodate actual operating experience;

(2) Train or provide for training of operating personnel and prepare curricula and training material for operating personnel; and

(3) Advise the grantee whether the project is meeting the project performance standards.

(c) On the date one year after the initiation of operation of the project, the grantee shall certify to the Regional Administrator whether the project meets the project performance standards. If the Regional Administrator or the grantee concludes that the project does not meet the project performance standards, the grantee shall submit the following:

(1) A corrective action report which includes an analysis of the cause of the project's failure to meet the performance standards (including the quantity of infiltration/inflow proposed to be eliminated), and an estimate of the nature, scope and cost of the corrective action necessary to bring the project into compliance;

(2) The schedule for undertaking in a timely manner the corrective action necessary to bring the project into compliance; and

(3) The scheduled date for certifying to the Regional Administrator that the project is meeting the project performance standards.

(d) Except as provided in § 35.2032(c) the grantee shall take corrective action necessary to bring a project into compliance with the project performance standards at its own expense.

(e) Nothing in this section:

(1) Prohibits a grantee from requiring more assurances, guarantees, or indemnity or other contractual requirements from any party performing project work; or

(2) Affects EPA's right to take remedial action, including enforcement, against a grantee that fails to carry out its obligations under § 35.2214.

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§ 35.2250 Determination of allowable costs.

The Regional Administrator will determine the allowable costs of the project based on applicable provisions of laws and regulations, the scope of the approved project, § 30.705 of this subchapter, and Appendix A of this subpart.

§ 35.2260 Advance purchase of eligible land.

In the case of grant assistance awarded solely for the acquisition of eligible land, the following provisions are deferred until the award of the ensuing Step 3 assistance for the building of facilities: §§ 35.2105, 35.2130, 35.2140, 35.2206 and 35.2208.

§ 35.2262 Funding of field testing.

In the case of grant assistance for field testing of innovative or alternative wastewater process and techniques, the following provisions are deferred until the award of assistance for building the approved facilities: §§ 35.2105, 35.2106, 35.2122, 35.2130, 35.2140, 35.2206, and 35.2208.

§ 35.2300 Grant payments.

Except as provided in § 35.2206, the Regional Administrator shall pay the Federal share of the allowance under § 35.2025 and the allowable project costs incurred to date and currently due and payable by the grantee, as certified in the grantee's most recent payment request.

(a) *Adjustment.* The Regional Administrator may at any time review and audit requests for payment and payments and make appropriate adjustments as provided in Part 30 of this subpart.

(b) *Refunds, rebates and credits.* The Federal share of any refunds, rebates, credits, or other amounts (including any interest) that accrue to or are received by the grantee for the project, and that are properly allocable to costs for which the grantee has been paid under a grant, must be credited to the current State allotment or paid to the United States. Examples include rebates for prompt payment and sales tax refunds. Reasonable expenses incurred by the grantee securing such refunds, rebates, credits, or other amounts shall be allowable under the grant when approved by the Regional Administrator.

(c) *Release.* By its acceptance of final payment, the grantee releases and discharges the United States, its officers, agents, and employees from all liabilities, obligations, and claims arising out of the project work or under the grant, subject only to exceptions previously specified in writing between the Regional Administrator and the grantee.

(d) *Payment of costs incurred under the Uniform Relocation Assistance and Real Property Acquisition Policies Act.* Notwithstanding the provisions of the introductory paragraph of this section, if the Regional Administrator determines it is necessary for the expeditious

completion of a project, he may make advance payment after grant award for the Federal share of the eligible cost of any payment of relocation assistance under § 4.502(c) of this chapter by the grantee. The requirements in Part 30 of this subchapter apply to any advances of funds for assistance payments.

(e) *Payment under grants to States for advances of allowance—(1) Advance payment to State.* Notwithstanding the provisions of the introductory paragraph of this section, the Regional Administrator, under a State grant for advances of allowance (see § 35.2025), may make payments on an advance or letter-of-credit payment method in accordance with the requirements under Part 30 of this subchapter. The State and the Regional Administrator shall agree to the payment terms.

(2) *Assignment.* If the State chooses to assign its payments to a potential grant applicant, it shall execute an agreement with the potential grant applicant authorizing direct payment from EPA and establishing appropriate terms for payment. The State shall provide a copy of the agreement to EPA.

(Approved by the Office of Management and Budget under control number 2040-0027)

§ 35.2350 Subagreement enforcement.

(a) *Regional Administrator authority.* At the grantee's request the Regional Administrator may provide technical and legal assistance in the administration and enforcement of any subagreement related to treatment works for which an EPA grant was made and to intervene in any civil action involving the enforcement of such subagreements, including subagreement disputes which are the subject of either arbitration or court action.

(b) *Privity of subagreement.* The Regional Administrator's technical or legal involvement in any subagreement dispute will not make EPA a party to any subagreement entered into by the grantee.

(c) *Grantee responsibilities.* The provision of technical or legal assistance under this section in no way releases the grantee from its obligations under § 35.2214, or affects EPA's right to take remedial action, including enforcement, against a grantee that fails to carry out those obligations.

Appendix A—Revised Interim Final Rule—Determination of Allowable Costs

(a) *Purpose.* The information in this appendix represents Agency policies and procedures for determining the allowability of project costs based on the Clean Water Act, EPA policy, appropriate Federal cost principles under Part 30 of this subchapter and reasonableness.

(b) *Applicability.* This cost information applies to grant assistance awarded on or after the effective date of this regulation. Project cost determinations under this subpart are not limited to the items listed in this appendix. Additional cost determinations based on applicable law and regulations must of course be made on a project-by-project basis. Those cost items not previously included in program requirements are not mandatory for decisions under grants awarded before the effective date. They are only to be used as guidance in those cases.

A. Costs Related to Subagreements

1. Allowable costs related to subagreements include:

a. The costs of subagreements for building the project.

b. The costs of complying with the procurement requirements of Part 33 of this subchapter, other than the costs of self-certification under § 33.110.

c. The cost of legal and engineering services incurred by grantees in deciding procurement protests and defending their decisions in protest appeals under subpart G of 40 CFR Part 33.

d. The costs for establishing or using minority and women's business liaison services.

e. The costs of services incurred during the building of a project to ensure that it is built in conformance with the design drawings and specifications.

f. The costs (including legal, technical, and administrative costs) of assessing the merits of or negotiating the settlement of a claim by or against a grantee under a subagreement provided:

(1) The claim arises from work within the scope of the grant;

(2) A formal grant amendment is executed specifically covering the costs before they are incurred;

(3) The costs are not incurred to prepare documentation that should be prepared by the contractor to support a claim against the grantee; and

(4) The Regional Administrator determines that there is a significant Federal interest in the issues involved in the claim.

g. Change orders and the costs of meritorious contractor claims for increased costs under subagreements as follows:

(1) Change orders and the costs of meritorious contractor claims provided the costs are:

(i) Within the scope of the project;

(ii) Not caused by the grantee's mismanagement; and

(iii) Not caused by the grantee's vicarious liability for the improper actions of others.

(2) Provided the requirements of paragraph g(1) are met, the following are examples of allowable change orders and contractor claim costs:

(i) Building costs resulting from defects in the plans, design drawings and specifications, or other subagreement documents only to the extent that the costs would have been incurred if the subagreement documents on which the bids were based had been free of the defects, and excluding the costs of any rework, delay,

acceleration, or disruption caused by such defects;

(ii) Costs of equitable adjustments under Clause 4, Differing Site Conditions, of the model subagreement clauses required under § 33.1030 of this Subchapter.

(3) Settlements, arbitration awards, and court judgments which resolve contractor claims shall be reviewed by the grant award official and shall be allowable only to the extent that they meet the requirements of paragraph g(1), are reasonable, and do not attempt to pass on to EPA the cost of events that were the responsibility of the grantee, the contractor, or others.

h. The costs of the services of the prime engineer required by § 35.2218 during the first year following initiation of operation of the project.

i. The cost of development of a plan of operation including an operation and maintenance manual required by § 35.2106.

j. Start-up services for onsite training of operating personnel in operation and control of specific treatment processes, laboratory procedures, and maintenance and records management.

2. Unallowable costs related to subagreements include:

a. The costs of architectural or engineering services or other services incurred in preparing a facilities plan and the design drawings and specifications for a project.

b. Except as provided in 1.g. above, architectural or engineering services or other services necessary to correct defects in a facilities plan, design drawings and specifications, or other subagreement documents.

c. The costs (including legal, technical and administrative) of defending against a contractor claim for increased costs under a subagreement or of prosecuting a claim to enforce any subagreement unless:

(1) The claim arises from work within the scope of the grant;

(2) A formal grant amendment is executed specifically covering the costs before they are incurred;

(3) The claim cannot be settled without arbitration or litigation;

(4) The claim does not result from the grantee's mismanagement;

(5) The Regional Administrator determines that there is a significant Federal interest in the issues involved in the claim; and

(6) In the case of defending against a contractor claim, the claim does not result from the grantee's responsibility for the improper action of others.

d. Bonus payments, not legally required, for completion of building before a contractual completion date.

e. All incremental costs of delay due to the award of any subagreements for building more than 12 months after the Step 3 grant award or final Step 2+3 approvals.

B. Mitigation

1. Allowable costs include:

a. Costs necessary to mitigate only direct, adverse, physical impacts resulting from building of the treatment works.

b. The costs of site screening necessary to comply with NEPA related studies and facilities plans, or necessary to screen adjacent properties.

c. The cost of groundwater monitoring facilities necessary to determine the possibility of groundwater deterioration, depletion or modification resulting from building the project.

2. Unallowable costs include:

a. The costs of solutions to aesthetic problems, including design details which require expensive building techniques and architectural features and hardware, that are unreasonable or substantially higher in cost than approvable alternatives and that neither enhance the function or appearance of the treatment works nor reflect regional architectural tradition.

C. Privately or Publicly Owned Small and Onsite Systems

1. Allowable costs for small and onsite systems serving residences and small commercial establishments inhabited on or before December 27, 1977 include:

a. The cost of major rehabilitation, upgrading, enlarging and installing small and onsite systems, but in the case of privately owned systems, only for principal residences.

b. Conveyance pipes from property line to offsite treatment unit which serves a cluster of buildings.

c. Treatment and treatment residue disposal portions of toilets with composting tanks, oil flush mechanisms, or similar in-house devices.

d. Treatment or pumping units from the incoming flange when located on private property and conveyance pipes, if any, to the collector sewer.

e. The cost of restoring individual system building sites to their original condition.

2. Unallowable costs for small and onsite systems include:

a. Modification to physical structure of homes or commercial establishments.

b. Conveyance pipes from the house to the treatment unit located on user's property.

c. Wastewater generating fixtures such as commodes, sinks, tubs, and drains.

D. Real Property

1. Allowable costs for land and rights-of-way include:

a. The cost (including associated legal, administrative and engineering costs) of land acquired in fee simple or by lease or easement under grants awarded after October 17, 1972, that will be an integral part of the treatment process or that will be used for the ultimate disposal of residues resulting from such treatment provided the Regional Administrator approves it in the grant agreement. These costs include:

(1) The cost of a reasonable amount of land, considering irregularities in application patterns, and the need for buffer areas, berms, and dikes;

(2) The cost of land acquired for a soil absorption system for a group of two or more homes;

(3) The cost of land acquired for composting or temporary storage of compost residues which result from wastewater treatment;

(4) The cost of land acquired for storage of treated wastewater in land treatment systems before land application. The total land area for construction of a pond for both

treatment and storage of wastewater is allowable if the volume necessary for storage is greater than the volume necessary for treatment. Otherwise, the allowable cost will be determined by the ratio of the storage volume to the total volume of the pond.

b. The cost of complying with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. 4621 et seq., 4651 et seq.), under Part 4 of this chapter.

c. The cost of contracting with another public agency or qualified private contractor for part or all of the required acquisition and/or relocation services.

d. The cost associated with the preparation of the treatment works site before, during and, to the extent agreed on in the grant agreement, after building. These costs include:

(1) The cost of demolition of existing structures on the treatment works site (including rights-of-way) if building cannot be undertaken without such demolition;

(2) The cost (considering such factors as betterment, cost of contracting and useful life) of removal, relocation or replacement of utilities, provided the grantee is legally obligated to pay under state or local law; and

(3) The cost of restoring streets and rights-of-way to their original condition. The need for such restoration must result directly from the construction and is generally limited to repaving the width of trench.

e. The cost of acquiring all or part of an existing publicly or privately owned wastewater treatment works provided all the following criteria are met:

(1) The acquisition, in and of itself, considered apart from any upgrade, expansion or rehabilitation, provides new pollution control benefits;

(2) The acquired treatment works was not built with previous Federal or State financial assistance;

(3) The primary purpose of the acquisition is not the reduction, elimination, or redistribution of public or private debt; and

(4) The acquisition does not circumvent the requirements of the Act, these regulations, or other Federal, State or local requirements.

2. Unallowable costs for land and rights-of-way include:

a. The costs of acquisition (including associated legal, administrative and engineering etc.) of sewer rights-of-way, waste treatment plant sites (including small system sites), sanitary landfill sites and sludge disposal areas except as provided in paragraph 1.a. of this section.

b. Any amount paid by the grantee for eligible land in excess of just compensation, based on the appraised value, the grantee's record of negotiation or any condemnation proceeding, as determined by the Regional Administrator.

c. Removal, relocation or replacement of utilities located on land by privilege, such as franchise.

E. Equipment, Materials and Supplies

1. Allowable costs of equipment, materials and supplies include:

a. The cost of a reasonable inventory of laboratory chemicals and supplies necessary

to initiate plant operations and laboratory items necessary to conduct tests required for plant operation.

b. The costs for purchase and/or transportation of biological seeding materials required for expeditiously initiating the treatment process operation.

c. Cost of shop equipment installed at the treatment works necessary to the operation of the works.

d. The costs of necessary safety equipment, provided the equipment meets applicable Federal, State, local or industry safety requirements.

e. A portion of the costs of collection system maintenance equipment. The portion of allowable costs shall be the total equipment cost less the cost attributable to the equipment's anticipated use on existing collection sewers not funded on the grant. This calculation shall be based on: (1) The portion of the total collection system paid for by the grant, (2) a demonstrable frequency of need, and (3) the need for the equipment to preclude the discharge or bypassing of untreated wastewater.

f. The cost of mobile equipment necessary for the operation of the overall wastewater treatment facility, transmission of wastewater or sludge, or for the maintenance of equipment. These items include:

- (1) Portable stand-by generators;
- (2) Large portable emergency pumps to provide "pump-around" capability in the event of pump station failure or pipeline breaks; and
- (3) Sludge or septic tanks, trailers, and other vehicles having as their sole purpose the transportation of liquid or dewatered wastes from the collector point (including individual or on-site systems) to the treatment facility or disposal site.

g. Replacement parts identified and approved in advance by the Regional Administrator as necessary to assure uninterrupted operation of the facility, provided they are critical parts or major systems components which are:

- (1) Not immediately available and/or whose procurement involves an extended "lead-time;"
- (2) Identified as critical by the equipment supplier(s); or
- (3) Critical but not included in the inventory provided by the equipment supplier(s).

2. Unallowable costs of equipment, materials and supplies include:

- a. The costs of equipment or material procured in violation of the procurement requirements of 40 CFR Part 33.
- b. The cost of furnishings including draperies, furniture and office equipment.
- c. The cost of ordinary site and building maintenance equipment such as lawnmowers and snowblowers.
- d. The cost of vehicles for the transportation of the grantees' employees.
- e. Items of routine "programmed" maintenance such as ordinary piping, air filters, couplings, hose, bolts, etc.

F. Industrial and Federal Users

1. Except as provided in paragraph F.2.a., allowable costs for industrial and Federal facilities include development of a municipal pretreatment program approvable under Part 403 of this chapter, and purchase of

monitoring equipment and construction of facilities to be used by the municipal treatment works in the pretreatment program.

2. Unallowable costs for industrial and Federal facilities include:

a. The cost of developing an approvable municipal pretreatment program when performed solely for the purpose of seeking an allowance for removal of pollutants under Part 403 of this chapter.

b. The cost of monitoring equipment used by industry for sampling and analysis of industrial discharges to municipal treatment works.

c. All incremental costs for sludge management incurred as a result of the grantee providing removal credits to industrial users under 40 CFR 403.7 beyond those sludge management costs that would otherwise be incurred in the absence of such removal credits.

G. Infiltration/Inflow

1. Allowable costs include:

a. The cost of treatment works capacity adequate to transport and treat nonexcessive infiltration/inflow under § 35.2120.

b. The costs of sewer system rehabilitation necessary to eliminate excessive infiltration/inflow as determined in a sewer system study under § 35.2120.

2. Unallowable costs include:

a. When the Regional Administrator determines that the flow rate is not significantly more than 120 gallons per capita per day under § 35.2120(c)(2)(ii), the incremental cost of treatment works capacity which is more than 120 gallons per capita per day.

H. Miscellaneous Costs

1. Allowable costs include:

a. The costs of salaries, benefits and expendable materials the grantee incurs for the project.

b. Unless otherwise specified in this regulation, the costs of meeting specific Federal statutory procedures.

c. Costs for necessary travel directly related to accomplishment of project objectives. Travel not directly related to a specific project, such as travel to professional meetings, symposia, technology transfer seminars, lectures, etc., may be recovered only under an indirect cost agreement.

d. The costs of additions to a treatment works that was assisted under the Federal Water Pollution Control Act of 1956 (Pub. L. 84-600), or its amendments, and that fails to meet its project performance standards provided:

(1) The project is identified on the State priority list as a project for additions to a treatment works that has received previous Federal funds;

(2) The grant application for the additions includes an analysis of why the treatment works cannot meet its project performance standards; and

(3) The additions could have been included in the original grant award and:

- (a) Are the result of one of the following:
 - (i) a change in the project performance standards required by EPA or the State;
 - (ii) a written understanding between the Regional Administrator and grantee prior to or included in the original grant award;
 - (iii) a written direction by the Regional

Administrator to delay building part of the treatment works; or

(iv) a major change in the treatment works' design criteria that the grantee cannot control; or

(b) Meet all the following conditions:

(i) If the original grant award was made after December 28, 1961, the treatment works has not completed its first full year of operation;

(ii) the additions are not caused by the grantee's mismanagement or the improper actions of others;

(iii) the costs of rework, delay, acceleration or disruption that are a result of building the additions are not included in the grant; and

(iv) the grant does not include an allowance for facilities planning or design of the additions.

(4) This provision applies to failures that occur either before or after the initiation of operation. This provision does not cover a treatment works that fails at the end of its design life.

e. Costs of royalties for the use of or rights in a patented process or product with the prior approval of the Regional Administrator.

f. Costs allocable to the water pollution control purpose of multiple purpose projects as determined by applying the Alternative Justifiable Expenditure (AJE) method described in the CG series. Multiple purpose projects that combine wastewater treatment with recreation do not need to use the AJE method, but can be funded at the level of the most cost-effective single-purpose alternative.

g. Costs of grantee employees attending training workshops/seminars that are necessary to provide instruction in administrative, fiscal or contracting procedures required to complete the construction of the treatment works, if approved in advance by the Regional Administrator.

2. Unallowable costs include:

a. Ordinary operating expenses of the grantee including salaries and expenses of elected and appointed officials and preparation of routine financial reports and studies.

b. Preparation of applications and permits required by Federal, State or local regulations or procedures.

c. Administrative, engineering and legal activities associated with the establishment of special departments, agencies, commissions, regions, districts or other units of government.

d. Approval, preparation, issuance and sale of bonds or other forms of indebtedness required to finance the project and the interest on them.

e. The costs of replacing, through reconstruction or substitution, a treatment works that was assisted under the Federal Water Pollution Control Act of 1956 (Pub. L. 84-600), or its amendments, and that fails to meet its project performance standards. This provision applies to failures that occur either before or after the initiation of operation. This provision does not apply to an innovative and alternative treatment works eligible for funding under § 35.2032(c) or a treatment works that fails at the end of its design life.

f. Personal injury compensation or damages arising out of the project.

g. Fines and penalties due to violations of, or failure to comply with, Federal, State or local laws, regulations or procedures.

h. Costs outside the scope of the approved project.

i. Costs for which grant payment has been or will be received from another Federal agency.

j. Costs of treatment works for control of pollutant discharges from a separate storm sewer system.

k. The cost of treatment works that would provide capacity for new habitation or other establishments to be located on environmentally sensitive land such as wetlands or floodplains.

l. The costs of preparing a corrective action report required by § 35.2218(c).

Appendix B—Final Rule—Allowance for Facilities Planning and Design

1. This Appendix provides the method EPA will use to determine both the estimated and the final allowance under § 35.2025 for facilities planning and design. The Step 2+3 and Step 3 grant agreement will include an estimate of the allowance.

2. The Federal share of the allowance is determined by applying the applicable grant percentage in § 35.2152 to the allowance.

3. The allowance is not intended to reimburse the grantee for costs actually incurred for facilities planning or design. Rather, the allowance is intended to assist in defraying those costs. Under this procedure, questions of equity (i.e., reimbursement on a dollar-for-dollar basis) will not be appropriate.

4. The estimated and final allowance will be determined in accordance with this Appendix and Tables 1 and 2. Table 2 is to be used in the event that the grantee received a grant for facilities planning. The amount of the allowance is computed by applying the resulting allowance percentage to the initial allowable building cost.

5. The initial allowable building cost is the initial allowable cost of erecting, altering, remodeling, improving, or extending a treatment works, whether accomplished through subagreement or force account. Specifically, the initial allowable building cost is the allowable cost of the following:

a. The initial award amount of all prime subagreements for building the project.

b. The initial amounts approved for force account work performed in lieu of awarding a subagreement for building the project.

c. The purchase price of eligible real property.

6. The estimated allowance is to be based on the estimate of the initial allowable building cost.

7. The final allowance will be determined one time only for each project, based on the initial allowable building cost, and will not be adjusted for subsequent cost increases or decreases.

8. For a Step 3 project, the grantee may request payment of 50 percent of the Federal share of the estimated allowance immediately after grant award. Final payment of the Federal share of the allowance may be requested in the first payment after the grantee has awarded all

prime subagreements for building the project, received the Regional Administrator's approval for force account work, and completed the acquisition of all eligible real property.

9. For a Step 2+3 project, if the grantee has not received a grant for facilities planning, the grantee may request payment of 30 percent of the Federal share of the estimated allowance immediately after the grant award. Half of the remaining estimated allowance may be requested when design of the project is 50 percent complete. If the grantee has received a grant for facilities planning, the grantee may request half of the Federal share of the estimated allowance when design of the project is 50 percent complete. Final payment of the Federal share of the allowance may be requested in the first payment after the grantee has awarded all prime subagreements for building the project, received the Regional Administrator's approval for force account work, and completed the acquisition of all eligible real property.

10. The allowance does not include architect or engineering services provided during the building of the project, e.g., reviewing bids, checking shop drawings, reviewing change orders, making periodic visits to job sites, etc. Architect or engineering services during the building of the project are allowable costs subject to this regulation and 40 CFR Part 33.

11. The State will determine the amount and conditions of any advance under § 35.2025(b), not to exceed the Federal share of the estimated allowance.

12. EPA will reduce the Federal share of the allowance by the amount of any advances the grantee received under § 35.2025(b).

TABLE 1.—ALLOWANCE FOR FACILITIES PLANNING AND DESIGN

Building cost	Allowance as a percentage of building cost*
\$100,000 or less	14.4945
120,000	14.1146
150,000	13.6631
175,000	13.3597
200,000	13.1023
250,000	12.6832
300,000	12.3507
350,000	12.0764
400,000	11.8438
500,000	11.4849
600,000	11.1844
700,000	10.9185
800,000	10.7062
900,000	10.5240
1,000,000	10.3637
1,200,000	10.0820
1,500,000	9.7892
1,750,000	9.5522
2,000,000	9.3682
2,500,000	9.0686
3,000,000	8.8309
3,500,000	8.6348
4,000,000	8.4684
5,000,000	8.1975
6,000,000	7.9827
7,000,000	7.8054
8,000,000	7.6550
9,000,000	7.5248
10,000,000	7.4101
12,000,000	7.2159
15,000,000	6.9851
17,500,000	6.8300
20,000,000	6.6964
25,000,000	6.4841

TABLE 1.—ALLOWANCE FOR FACILITIES PLANNING AND DESIGN—Continued

Building cost	Allowance as a percentage of building cost*
30,000,000	6.3142
35,000,000	6.1736
40,000,000	6.0550
50,000,000	5.8613
60,000,000	5.7077
70,000,000	5.5806
80,000,000	5.4734
90,000,000	5.3803
100,000,000	5.2983
120,000,000	5.1594
150,000,000	4.9944
175,000,000	4.8835
200,000,000	4.7884

NOTE.—The allowance does not reimburse for costs incurred. Accordingly, the allowance Tables shall not be used to determine the compensation for facilities planning or design services. The compensation for facilities planning or design services should be based upon the nature, scope and complexity of the services required by the community.

* Interpolate between values.

TABLE 2.—ALLOWANCE FOR DESIGN ONLY

Building cost	Allowance as a percentage of building cost*
\$100,000 or less	8.5683
120,000	8.3806
150,000	8.1570
175,000	8.0059
200,000	7.8772
250,000	7.6668
300,000	7.4991
350,000	7.3602
400,000	7.2419
500,000	7.0485
600,000	6.8943
700,000	6.7666
800,000	6.6578
900,000	6.5634
1,000,000	6.4300
1,200,000	6.3383
1,500,000	6.1660
1,750,000	6.0547
2,000,000	5.9574
2,500,000	5.7983
3,000,000	5.6714
3,500,000	5.5664
4,000,000	5.4769
5,000,000	5.3306
6,000,000	5.2140
7,000,000	5.1174
8,000,000	5.0352
9,000,000	4.9637
10,000,000	4.9007
12,000,000	4.7935
15,000,000	4.6655
17,500,000	4.5790
20,000,000	4.5054
25,000,000	4.3851
30,000,000	4.2882
35,000,000	4.2097
40,000,000	4.1421
50,000,000	4.0314
60,000,000	3.9432
70,000,000	3.8702
80,000,000	3.8060
90,000,000	3.7540
100,000,000	3.7063
120,000,000	3.6252
150,000,000	3.5284
175,000,000	3.4630
200,000,000	3.4074

NOTE.—The allowance does not reimburse for costs incurred. Accordingly, the allowance Tables shall not be used to determine the compensation for facilities planning or design services. The compensation for facilities planning or design services should be based upon the nature, scope and complexity of the services required by the community.

* Interpolate between values.

[FR Doc. 84-4076 Filed 3-18-84; 8:45 am]

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APPENDIX N
40 CFR PART 33
FINAL REGULATIONS

federal register

Monday
March 28, 1983

Part II

Environmental Protection Agency

**Procurement Under Assistance
Agreements**

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 33

[OA-FRL 2216-3]

Procurement Under Assistance Agreements

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: This document makes the Environmental Protection Agency's Part 33, "Procurement Under Assistance Agreements," a final rule. Part 33 establishes the rules for all procurement undertaken by recipients of EPA assistance agreements. In accordance with OMB Circular A-102, Attachment O, and OMB Circular A-110, Attachment O this rule is designed to rely heavily on recipients' procurement systems. Part 33 applies to all Catalog of Federal Domestic Assistance Programs in the 66.000 series.

DATE: This rule is effective for assistance agreements which EPA awards on and after March 28, 1983.

FOR FURTHER INFORMATION CONTACT: Richard A. Johnson, Grants Administration Division (PM-216), Environmental Protection Agency, Washington, D.C. 20460, (202) 382-5296.

SUPPLEMENTARY INFORMATION: On September 16, 1981, EPA published in the Federal Register (46 FR 45963) a Notice of Availability which made a draft of Part 33 available for public comment.

On March 2, 1982, EPA published a proposed Part 33 in the Federal Register (47 FR 8960) and on May 12, 1982, EPA published in the Federal Register (47 FR 20474) an interim-final Part 33. The May 12, 1982, interim-final rule became effective only for EPA's construction grants program.

On July 8, 1982, EPA reopened the comment period on Section 33.240 "Small, minority, women's and labor-surplus area businesses" (47 FR 29668). The comment period on this section was extended 30 days because it significantly changes EPA's existing minority business and women's business policies.

We made numerous editorial changes throughout the interim-final rule in order to make this final rule easier to read and understand.

Implementation

Because we published an interim-final and final Part 33 rule, we have added this section to explain when the interim-

final is effective and when the final rule is effective.

1. If EPA awarded a wastewater treatment construction grant under Title II of the Clean Water Act before May 12, 1982, the recipient has the following options:

(a) The recipient may follow the procurement requirements in effect when EPA awarded its construction grant, or

(b) The recipient may follow the procurement requirements in the May 12 interim-final rule, provided the recipient completed and submitted EPA Form 5700-48 to the award official before the effective date of this final rule, or

(c) The recipient may follow the procurement requirements in the final rule.

2. If EPA awarded a construction grant between May 12, 1982, and the effective date of this rule, the recipient has the following options.

(a) The recipient may follow the procurement requirements in the May 12 interim-final rule, provided the recipient completed and submitted EPA Form 5700-48 to the award official before the effective date of this final rule.

(b) If the recipient did not submit EPA Form 5700-48 before the effective date of this rule, the recipient must follow the procurement requirements in this final rule. The recipient must complete the appropriate part of EPA Form 5700-48 and submit the form to the award official as required in § 33.110.

3. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, "Superfund" awards made after March 2, 1982, included the proposed Part 33 rule (47 FR 8960) as a special condition in each cooperative agreement.

Superfund awards made after May 12, 1982, included the interim-final Part 33 (47 FR 20474) as a special condition in each cooperative agreement.

Superfund awards made after the effective date of this final rule are subject to the final rule.

4. If EPA awarded any other assistance agreement (other than construction grants and Superfund awards) before the effective date of this rule, the recipient has the following options:

(a) The recipient may follow the procurement requirements in effect when EPA awarded the assistance agreement, or

(b) The recipient may follow the procurement requirements in the final rule. The recipient must complete the appropriate part of EPA Form 5700-48 and submit the form to the award official as required in § 33.110.

EPA Form 5700-48 "Procurement System Certification"

This form implements the self-certification process. Subpart A "Procurement System Evaluation" explains how EPA and the recipient will use the form. For the reader's convenience, we have included a copy of the form after Appendix A.

Description of Major Issues

Quality Assurance

On June 14, 1979, EPA established quality assurance requirements for all EPA extramural projects involving environmental measurements. The objective of the quality assurance (QA) program is to ensure that all environmentally related measurements which are required or funded by EPA are scientifically valid, defensible, and of known precision and accuracy. Under the program, contractors must submit QA plans to the recipient if contract activities will include environmentally related measurements. The reference to EPA's QA program is being added to § 33.1030, clause 13, "Responsibility of the Contractor," paragraph (a), in order to make contractors aware of the policy.

The QA requirements are specified in guideline documents available from: Sid Verner, Environmental Protection Agency, Office of Research and Development (RD-680), 401 M Street, S.W., Washington, D.C. 20460, (202) 382-5787.

Major Comments Received

We received over 125 comments on the March 2, 1982, proposed rule. The preamble to the May 12, 1982, interim-final rule addressed some of these comments in detail. Since EPA's position on the issues discussed in that preamble is unchanged, we have not repeated those discussions here. The following discussion addresses the other areas of the regulation which received the greatest number of comments:

Section 33.005 Definitions.

We reserved the definitions of minority business enterprise (MBE) and women's business enterprise (WBE) in the May 12, 1982, interim-final regulation. We are adding those definitions now.

We received several comments on the definition of MBE in the September 9, 1981, draft regulation which was made available to the public for comment by notice in the Federal Register on September 16, 1981 (46 FR 45963). That definition used the Small Business Administration's (SBA) definition of minority group members, which

excluded persons from the Indian subcontinent from the definition of "Asian American." Because a number of people from the Indian subcontinent have participated in EPA's MBE program for construction grants, we are now revising the September 9, 1981, definition to include businesses owned and controlled by individuals from the Indian subcontinent. We understand that the SBA is now considering a petition to include persons from the Indian subcontinent in its definition of "Asian Americans."

We also received comments on the need for a definition of the terms "Intergovernmental Agreement" and "Supplies;" therefore, we added definitions for these terms.

Section 33.110 Applicant and recipient certification.

We received questions on the regulatory authority retained by the EPA award official when the recipient certifies its procurement system. To clarify the authority the award official retains, we have added paragraph (e) to § 33.110 "Applicant and recipient certification."

Section 33.211 Recipient reporting requirements.

This is a new section which gives the reporting requirements recipients must follow even if the recipient certifies its procurement system. Paragraph (a) through (d) of this section lists the information the Department of Labor (DoL) requires for each construction subagreement award which exceeds or is expected to exceed \$10,000. The DoL requires this information to implement the Davis-Bacon Act, Copeland Regulations, Work Hours and Safety Standards Act, and the equal employment opportunity requirements in Executive Order 11246, Executive Order 11375 and DoL regulations in 41 CFR Part 60. Paragraph (e) of this section requires that recipients submit to the award official a copy of the tabulation of bids or offerors and the name of the bidder or offeror for each subagreement the recipient awards. EPA needs this information to efficiently implement EPA's debarment and suspension regulation (40 CFR Part 32 "Debarment and Suspension Under EPA Assistance Programs").

Section 33.230 Competition.

We received several comments on the requirements in § 33.230(c) for the use of a prequalified list. We allow recipients to use prequalified lists of persons, firms or products because they play an important part in many State and local procurement systems. However,

because a prequalified list could unduly restrict competition, we require that recipients provide adequate public notice that they are maintaining a prequalified list, that the recipient update the list at least every six months and that the recipient review and act on each request for prequalification made more than 30 days before the closing date for receipt of proposals or bid opening. We believe that these requirements will allow potential contractors sufficient access to the list and will minimize the noncompetitive nature of such lists.

We also received several comments on the prohibition in § 33.230(b)(4) against the use of local or in-State bidders' or proposers' preference. We included this prohibition because a preference for local or in-State bidders unduly restricts competition. If the local or in-State bidder is more familiar with the local conditions, or can more readily mobilize its resources and can, therefore, provide the work more economically or efficiently, a preference is not necessary because its bid or proposal should reflect this familiarity or mobility.

Section 33.240 Small, minority, women's and labor surplus area businesses.

We are continuing to review EPA's minority and women's business enterprise (MBE/WBE) provisions in § 33.240. We reserved § 33.240(b) for any additional MBE/WBE requirements which the Agency may impose.

On December 17, 1982, President Reagan issued a Statement on Minority Business Enterprise Development which encourages Federal assistance agencies to achieve reasonable minority business participation in contracts under assistance agreements. The President noted that minority business procurement by recipients could amount to \$6 to \$7 billion through FY 1985. The President also indicated that an Executive Order on Minority Business Enterprise will be forthcoming, and that the Interagency Council for Minority Business Enterprise will establish uniform guidelines to implement the Order. EPA will then review and revise, if necessary, its MBE/WBE provisions in § 33.240 to assure that they are consistent with the requirements of Executive Order.

In this rule, § 33.240 contains only those provisions allowed by Attachment O, Paragraph 9. Therefore, the MBE policy (43 FR 80220, December 28, 1978) and the WBE policy (45 FR 51490, August 1, 1980) are no longer mandatory for recipients of construction grants who are subject to the interim-final or final

Part 33 rule. However, any EPA recipient may adopt these policies, in whole or in part, by including provisions in their solicitations and subagreements. In any event, recipients and contractors must comply with the affirmative step requirements in § 33.240 and any other requirements of the State or the recipient.

We also received a substantial number of comments on the absence of percentage goals in § 33.240 for MBE and WBE participation in EPA-funded work. We no longer require recipients to include goals in their specifications, nor will the EPA regions set goals for MBE or WBE participation. In the past, goals served as a tool to determine whether the affirmative steps required by OMB Circular A-102, Attachment O were adequately carried out by the assistance recipient and its contractors. In keeping with EPA's policy to transfer procurement responsibilities to recipients, the Agency believes that recipients and States should decide how to implement the required affirmative steps. Therefore, recipients may use their own goals, State goals, or other standards.

Several commenters noted that the regulation was not clear on whether the affirmative steps must be undertaken for each group of businesses—small, minority-owned and women-owned. Recipients must take the affirmative steps in § 33.240 for each group. For example, solicitation of MBE's alone will not satisfy the requirements of § 33.240; the recipient must also attempt to contract with small and women's businesses.

We also received several comments that § 33.240(a)(6) differs from OMB Circular A-102, Attachment O, section 9.a.(6). The commenters pointed out that Attachment O requires that the first tier contractor take the affirmative steps (1) through (5) only if the contractor plans to award subagreements. Therefore, we have revised § 33.240(a)(6) to make it consistent with OMB Circular A-102, Attachment O.

Several commenters suggested that we add a definition of "labor surplus area." The Secretary of Labor is responsible for defining labor surplus area. This definition is contained in 20 CFR Part 654, "Special Responsibilities of the Employment Service System."

With respect to EPA's construction grants program, we received comments concerning the use of MBE/WBE's in facilities planning and design work. As a result of the 1981 Amendments to the Clean Water Act, EPA cannot directly involve itself in the facilities planning and design activities preceding the

award of a construction grant. However, it is EPA's policy to encourage potential grant recipients to adopt procurement procedures that, at a minimum, include the affirmative steps in § 33.240 for all activities of their construction program.

Section 33.255 Specifications.

One commenter asked if the justification for the use of a restrictive specification had to be included in the specification itself. That is not the case. The justification for the use of a restrictive specification must be documented and included in the recipient's files.

We also receive a recommendation that we limit use of "brand name or equal" specifications to procurements for the acquisition of equipment and services, and prohibit the use of a brand name or equal specification for the procurement of pipe and similar materials.

We believe it is inappropriate to adopt this recommendation for two reasons. First, neither Attachment O nor the Clean Water Act, as amended, provide for any restriction of this nature. Second, there may be instances in the procurement of materials when the recipient's procuring official must resort to use of a "brand name or equal" specification.

Although we prefer the use of design or performance based specifications, we agree that use of a "brand name or equal" specification is generally not advisable in procurements for the acquisition of materials. Instead, the recipient should determine whether a national or industry standard has been developed. If developed, such a standard may provide both the recipient and prospective contractors a more accurate description of the material to be purchased than would a "brand name or equal" specification.

A "brand name or equal" specification can be used only when the recipient determines that it is impractical or uneconomical for it to make a clear and accurate description of its technical requirements in the specifications.

Section 33.280 Payments to consultants.

We received several comments that this section does not make it clear that consultants may receive compensation in excess of the GS-18 rate, but that the Federal government will limit its participation in a payment to a consultant to the maximum daily rate for a GS-18. We have, therefore, revised the wording in this section to make this clear.

We also revised paragraph (b) to clarify that the GS-18 rate limitation does not apply to firms.

Section 33.295 Subagreements awarded by a contractor.

We received questions about the applicability of Part 33 to subagreements awarded by a contractor. We revised § 33.295 to clarify and explain which procurement requirements apply and that they apply only to the tier immediately below the contractor (i.e. subagreements awarded by the contractor.) However, this section does not apply to a first tier subagreement awarded by the recipient to a supplier. That is, the section does not apply to a supplier's procurement of materials to produce equipment, materials, and catalog, off-the-shelf, or manufactured items.

We also added three requirements we inadvertently omitted from the proposed and interim-final rules. These three requirements existed in EPA's previous procurement regulations, in 40 CFR 30.340-2 (a) through (d), and (g) and are proposed in 40 CFR 30.301(a) (1) through (4) and (7)), the profit requirements in § 33.235, and the specification requirements in § 33.255.

Section 33.520 Negotiation and award of subagreement.

We reworded paragraph (a) to clarify that the recipient must state in the Request for Proposal (RFP) that he can make the award based on initial offers alone. If the recipient does not make such a statement in the RFP, the recipient must conduct meaningful negotiations with all of the best qualified offerors with acceptable proposals and permit revisions to obtain best and final offers.

Section 33.525 Optional procedure for negotiation and award of subagreements for architectural and engineering services.

Several commenters suggested that we revise this section to delete the word "optional" in the title. We included the word optional to make it clear that the procedures in this section are not mandatory. This is in keeping with OMB Circular A-102, Attachment O, paragraph 11.c.(5), which clearly states that these procedures are optional.

We also revised this section to explain the optional procedure in more detail.

Section 33.715 Use of the same architect or engineer during construction.

We received comments concerning § 33.715(a), which lists the circumstances under which a recipient

can use the same architect or engineer that performed any or all of the facilities planning or design services for the architectural or engineering services during Step 3 construction of the project. The concern was whether § 33.715(a)(4) applies to § 33.715(a) (1), (2) and (3) or to § 33.715(a)(3) only. Section 33.715(a)(4) applies to § 33.715(a)(3) only. Therefore, we restructured § 33.715(a) (3) and (4) to combine their requirements into a new § 33.715(a)(3).

Also, we changed this section to allow recipient's of either a Step 1 or a Step 2 grant to use the same architect or engineer (A/E) during construction of the project without further advertising or negotiations, if the recipient selected the A/E in accordance with the EPA procurement regulation in effect when EPA awarded the Step 1 or Step 2 grant.

Subpart D—Requirements for Institutions of Higher Education and Other Nonprofit Organizations

Several commenters stated that the requirements for nonprofit organizations exceed the requirements in OMB Circular A-110, Attachment O. While not all of the requirements in Part 33 are required by OMB Circular A-110, Attachment O, we believe that they are necessary to ensure efficient and effective program management. OMB reviewed and approved all of these requirements during the regulatory review process.

Sections 33.1015 through 33.1021 Subagreement clauses.

In the proposed and interim-final rules we included separate sections in Subpart F explaining the four labor standards provisions required by the Department of Labor (DoL). In these versions of the rule, we briefly explained each of these requirements and referred the recipient to the appropriate DoL regulation. The recipient then had to read the DoL regulation and develop a clause which met the requirement. However, since several of the DoL regulations require the use of a standard clause and because EPA has a form (EPA Form 5720-4 "Labor Standards Provisions For Federally Assisted Construction Contracts") which contains the appropriate DoL clauses and which has been approved by DoL, we added § 33.1015 "Labor standards provisions" which requires recipients to use EPA Form 5720-4. We believe this will reduce the burden on recipients and help implement the DoL requirements.

Section 33.1030 Clause 3 Changes.

Comments we received during an EPA internal review of this Part suggested that we change this clause to eliminate the reference to oral change orders in paragraph (a)(2). The change was suggested to improve the management of change orders and to reduce program costs. We agree that oral change orders may lead to mismanagement and add to program costs, and have, therefore, changed this clause. The subject of change order management was addressed in EPA's Office of Inspector General's September 21, 1982, report on change orders "Report on Audit and Administration of Change Orders Under EPA's Construction Grant Program." This report was undertaken as part of the President's Council on Integrity and Efficiency's study on change orders under contraction programs.

Section 33.1030 Clause 8 Price Reduction for Defective Cost or Pricing Data.

We received comments that paragraph 10(b) of 40 CFR Part 35, Subpart E, Appendix C-1 should be added to the end of this clause in order to allow a disagreement over a reduction in price to fall under the remedies clause of the subagreement. We agree and have added a paragraph (b) to this clause.

Another commenter pointed out that by raising the effective level of this clause from \$100,000 to \$500,000, we were excluding most of the subagreements for services on Step 3 construction grant projects. We have, therefore, changed the effective level of this clause back to the \$100,000 level.

Section 33.1030 Clause 9 Audit; Access to Records.

We added a new paragraph (f) and revised paragraph (g) to clarify when the right of access clause applies.

Meeting With Interest Groups

On May 6, 1982, at the request of the Water and Wastewater Equipment Manufacturers Association (WWEMA), EPA held a public meeting to discuss several issues. Present at the meeting were representatives from groups with special interest in procurement under EPA assistance agreements, including the National Institute of Governmental Purchasing (NIGP), the Association of General Contractors (AGC), the American Consulting Engineers Council (ACEC), and the American Public Works Association (APWA). A tape of this meeting is on file with EPA's Docket Section in Docket No. G-81-4. In addition, the positions of the various

groups are contained in written comments also in the Docket. The sections discussed at this meeting were:

Section 33.255 Specifications.

The issue was whether to delete the requirement of § 33.255 that if a "brand name or equal" description is used, the salient characteristics of the named brand must also be stated. The requirement to include the named brand's salient characteristics in the specification is a requirement in Attachment O to OMB Circular A-102, and is specifically called for in House of Representatives Report No. 97-270, 97th Congress, 1st Session, October 12, 1982, (page 12), which accompanied the bill that became Public Law 97-117. Therefore, EPA cannot change the requirement to include the named brand's salient characteristics.

Section 33.1015 Subagreement provisions clause.

The issue was whether to mandate progress payments for undelivered, specifically manufactured items of equipment having long production times. One commenter believed that requiring recipients to make progress payments for such items would reduce equipment costs because manufacturers include in their equipment price the interest on money they borrow to produce the equipment. While progress payments could reduce the cost of some equipment, Treasury Circular 1075 does not require progress payments; therefore, EPA will not require them. This does not preclude recipients from making progress payments for such items and we encourage those who find it in their interest to allow progress payments.

Section 33.1030(b) Clause 4 Differing Site Conditions.

The issue was whether EPA should require a clause to cover situations where the actual characteristics of the influent to a wastewater treatment works differs significantly from those on which the original design was based. Participants in the meeting decided that a joint WWEMA/ACEC/AGC task group would provide EPA a suggested draft clause covering this issue. EPA considered the task group's suggestion and decided that, although the clause addresses an important issue, it is not an appropriate procurement under assistance agreement requirement.

Section 33.005(b) Definition of architectural or engineering services.

The issues were whether the definition of "architectural or engineering (A/E) services" should

include manufacturers and contractors and be revised to state that providers of A/E services need not be licensed by the State. The definition in § 33.005(b) is based on the definition for A/E services in the American Bar Association's "Model Procurement Code for State and Local Governments" and section 2 of the American Society of Civil Engineers' Manual 45. Because EPA's definition is based on the definitions in these widely accepted reference documents, we do not believe the definition should be changed.

Section 33.525 Optional procedure for negotiation and award of a subagreement for architectural and engineering services.

The issue was whether to eliminate the words "architectural and engineering." This section implements an option to the competitive negotiation process under OMB Circular A-102. Attachment O, which expressly limited the option to the procurement of A/E services. Therefore, EPA believes that a change to this section is not warranted.

Regulation Development Process

Under Executive Order 12291, EPA must judge whether a regulation is "major" and, therefore, subject to the regulatory impact analysis requirements of the Order or whether it may follow other development procedures. We determined that this regulation is not "major" because it will not have a substantial impact on the economy. Consequently, the regulation is not subject to the impact analysis requirements of Executive Order 12291.

Information collection requirements contained in § 33.110 have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*) and have been assigned OMB control number 2000-0453.

The information provisions in § 33.211 "Recipient reporting requirements" and the requirement in § 33.420(f), § 33.510(b) and § 33.1016 to use EPA Form 5720-4 have been approved by OMB under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*) and have been assigned OMB control number 2030-0004.

This regulation was submitted to OMB for review as required by Executive Order 12291.

List of Subjects in 40 CFR Part 33

Advertising, Conflict of interest, Environmental protection, Grants programs—Environmental protection.

Dated: March 11, 1983.

John W. Hernandez, Jr.,
Acting Administrator.

Accordingly, Title 40 Chapter I is amended by revising Part 33 to read as follows:

PART 33—PROCUREMENT UNDER ASSISTANCE AGREEMENTS

- 33.001 Applicability and scope of this part.
- 33.005 Definitions.

Subpart A—Procurement System Evaluation

- 33.105 Applicability and scope of this subpart.
- 33.110 Applicant and recipient certification.
- 33.115 Procurement system review.

Subpart B—Procurement Requirements

- 33.205 Applicability and scope of this subpart.
- 33.210 Recipient responsibility.
- 33.211 Recipient reporting requirements.
- 33.220 Limitation on subagreement award.
- 33.225 Violations.
- 33.230 Competition.
- 33.235 Profit.
- 33.240 Small, minority, women's, and labor surplus area businesses.
- 33.245 Privy of subagreement.
- 33.250 Documentation.
- 33.255 Specifications.
- 33.260 Intergovernmental agreements.
- 33.265 Bonding and insurance.
- 33.270 Code of conduct.
- 33.275 Federal cost principles.
- 33.280 Payment to consultants.
- 33.285 Prohibited types of subagreements.
- 33.290 Cost and price considerations.
- 33.295 Subagreements awarded by a contractor.

Small Purchases

- 33.305 Small purchase procurement.
- 33.310 Small purchase procedures.
- 33.315 Requirements for competition.

Formal Advertising

- 33.405 Formal advertising procurement method.
- 33.410 Public notice and solicitation of bids.
- 33.415 Time for preparing bids.
- 33.420 Adequate bidding documents.
- 33.425 Public opening of bids.
- 33.430 Award to lowest, responsive, responsible bidder.

Competitive Negotiation

- 33.505 Competitive negotiation procurement method.
- 33.510 Public notice.
- 33.515 Evaluation of proposals.
- 33.520 Negotiation and award of subagreement.
- 33.525 Optional selection procedure for negotiation and award of subagreements for architectural and engineering services.

Noncompetitive Negotiation

- 33.605 Noncompetitive negotiation procurement method.

Subpart C—Requirements for Recipients of Assistance Agreements for Construction of Treatment Works

Sec.

- 33.705 Applicability and scope of this subpart.
- 33.710 Buy American.
- 33.715 Use of the same architect or engineer during construction.

Subpart D—Requirements for Institutions of Higher Education and Other Nonprofit Organizations

- 33.805 Applicability and scope of this subpart.
- 33.810 Nonapplicable subagreement clauses.
- 33.815 Nonapplicable procurement provisions.
- 33.820 Additional procurement requirements.

Subpart E—Requirements for Recipients of Remedial Action Cooperative Agreements Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980

- 33.905 Applicability and scope of this subpart.
- 33.910 Preference for formal advertising.
- 33.915 Award official approval.

Subpart F—Subagreement Provisions

- 33.1005 Applicability and scope of this subpart.
- 33.1010 Requirements for subagreement clauses.
- 33.1015 Subagreement provisions clause.
- 33.1016 Labor standards provisions.
- 33.1019 Patents, data and copyrights clause.
- 33.1020 Violating facilities clause.
- 33.1021 Energy efficiency clause.
- 33.1030 Model subagreement clauses.

Subpart G—Protests

- 33.1105 Applicability and scope of this subpart.
- 33.1110 Recipient protest procedures.
- 33.1115 Protest appeal.
- 33.1120 Limitations on protest appeals.
- 33.1125 Filing requirements.
- 33.1130 Review of protest appeals.
- 33.1140 Deferral of procurement action.
- 33.1145 Award official's review.

Appendix A—Procedural Requirements for Recipients Who Do Not Certify Their Procurement Systems, or for Recipients Who Have Their Procurement Certifications Revoked by EPA.

Authority: 7 U.S.C. 135 et seq.; 15 U.S.C. 2801 et seq.; 33 U.S.C. 1251 et seq.; 42 U.S.C. 241, 242b, 243, 246, 300j-1, 300j-2, 300j-3, 1857 et seq.; 6901 et seq.; and 42 U.S.C. 9601 et seq.

§ 33.001 Applicability and scope of this Part.

(a) This part applies to all assistance agreements awarded on or after the effective date of this part. For assistance agreements awarded before the effective date, this part will apply only to those procurement actions initiated by the recipient on or after the date the recipient complies with the self-certification requirements in § 33.110 of this part.

(b) This part:

(1) Describes EPA's procurement system evaluation process.

(2) Identifies the minimum requirements for the procurement of supplies, services, and construction under EPA assistance agreements.

(3) Identifies an additional specification requirement for procurement under assistance agreements for the construction of treatment works awarded under 40 CFR Part 35, Subparts E and I.

(4) Identifies the procurement standards that institutions of higher education and other nonprofit organizations must follow.

(5) Identifies the provisions that recipients of EPA assistance agreements must include in their subagreements.

(6) Describes the procedures that EPA will use to handle protest appeals concerning the award of a subagreement by the recipient of an EPA assistance agreement.

(c) This Part does not apply to work beyond the scope of the project for which an assistance agreement is awarded (i.e., ineligible work).

(d) This part does not apply to expenses for services for which the recipient will receive an allowance or a potential recipient will receive an advance of an allowance under 40 CFR Part 35, Subpart I.

(e) This part supplements the requirements in:

(1) 40 CFR Part 30 "General Regulation for Assistance Programs," and

(2) 40 CFR Part 32, "Debarments and Suspensions under EPA Assistance Programs."

(f) The following types of recipients must comply with the specified subparts in this part:

(1) Recipients of assistance agreements for the construction of treatment works awarded under 40 CFR Part 35, Subparts E and I, must follow the requirements in Subparts A, B, C, F and G.

(2) Recipients of remedial action cooperative agreements under the Comprehensive Environmental Response, Compensation, Liability Act of 1980 (Superfund 42 U.S.C. 9601 et seq.) must follow the requirements in Subparts A, B, E, F and G.

(3) State and local government recipients for other than construction grants and CERCLA remedial action cooperative agreements must follow the requirements in Subparts A, B, F and G.

(4) Institutions of higher education, hospitals, and other nonprofit organizations must follow the requirements in Subparts A, B, D and G.

(g) In the construction of treatment works program under the Clean Water Act (33 U.S.C. 1251 et. seq.), it is EPA's policy to delegate determinations on individual projects to State agencies to the maximum extent possible (see 40 CFR Part 35, Subpart F). This Part uses the term "award official." To the extent that the award official for a treatment works assistance agreement delegates responsibility for determining compliance with the requirements of this Part (except for § 33.115 "Procurement system review," § 33.211 "Recipient reporting requirements" and Subpart G "Protests") to a State agency under a delegation agreement (40 CFR 35.1130), the term "award official" may be read "State agency."

(h) This Part applies to a grant awarded under 40 CFR Part 35 Subpart E only if the recipient elects to follow the requirements in this Part. If the recipient of a Subpart E grant does not elect to follow the requirements in this Part, it is subject to the procurement requirements in 40 CFR Subpart E.

§ 33.005 Definitions.

(a) Words and terms not defined below shall have the meaning given to them in 40 CFR Part 30 and 40 CFR Part 35.

(b) As used in this part, the following words and terms mean:

Architectural or engineering (A/E) services. Consultation, investigations; reports, or services for design-type projects within the scope of the practice of architecture or professional engineering as defined by the laws of the State or territory in which the recipient is located.

Construction. Erection, building, alteration, remodeling, improvement, or extension of buildings, structures or other property. Construction also includes remedial actions in response to a release, or a threat of a release, of a hazardous substance into the environment as determined by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

Contractor. Any party to whom a recipient awards a subagreement.

Cost analysis. The review and evaluation of each element of subagreement cost to determine reasonableness, allocability and allowability.

Intergovernmental Agreement. Any written agreement between units of government under which one public agency performs duties for or in concert with another public agency using EPA assistance. This includes substate and interagency agreements.

Minority Business Enterprise. A minority business enterprise is a business which is: (1) Certified as socially and economically disadvantaged by the Small Business Administration, (2) certified as a minority business enterprise by a State or Federal agency, or (3) an independent business concern which is at least 51 percent owned and controlled by minority group member(s). A minority group member is an individual who is a citizen of the United States and one of the following:

- (i) Black American;
- (ii) Hispanic American (with origins from Puerto Rico, Mexico, Cuba, South or Central America);
- (iii) Native American (American Indian, Eskimo, Aleut, native Hawaiian), or
- (iv) Asian-Pacific American (with origins from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the U.S. Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, Taiwan or the Indian subcontinent).

Price analysis. The process of evaluating a prospective price without regard to the contractor's separate cost elements and proposed profit. Price analysis determines the reasonableness of the proposed subagreement price based on adequate price competition, previous experience with similar work, established catalog or market price, law, or regulation.

Profit. The net proceeds obtained by deducting all allowable costs (direct and indirect) from the price. (Because this definition of profit is based on applicable Federal cost principles, it may vary from many firms' definition of profit, and may correspond to those firms' definition of "fee.")

Services. A contractor's labor, time, or efforts which do not involve the delivery of a specific end item, other than documents, (e.g., reports, design drawing, specifications). This term does not include employment agreements or collective bargaining agreements.

Small business. A business as defined in Section 3 of the Small Business Act, as amended (15 U.S.C. 632).

Subagreement. A written agreement between an EPA recipient and another party (other than another public agency) and any lower tier agreement for services, supplies, or construction necessary to complete the project. Subagreements include contracts and subcontracts for personal and professional services, agreements with consultants, and purchase orders.

Supplies. All property, including equipment, materials, printing, insurances and leases of real property,

but excluding land or a permanent interest in land.

Women's Business Enterprise. A women's business enterprise is a business which is certified as such by a State or Federal agency, or which meets the following definition: A women's business enterprise is an independent business concern which is at least 51 percent owned by a woman or women who also control and operate it. Determination of whether a business is at least 51 percent owned by a woman or women shall be made without regard to community property laws. For example, an otherwise qualified WBE which is 51 percent owned by a married woman in a community property state will not be disqualified because her husband has a 50 percent interest in her share. Similarly, a business which is 51 percent owned by a married man and 49 percent owned by an unmarried woman will not become a qualified WBE by virtue of his wife's 50 percent interest in his share of the business.

Subpart A—Procurement System Evaluation

§ 33.105 Applicability and scope of this subpart.

(a) This subpart applies to all recipients of EPA assistance agreements.

(b) For procurements involving EPA funds, recipients shall use their own procurement policies and procedures if those policies and procedures reflect applicable Federal, State, and local laws and regulations, and at least meet the requirements set forth in this part.

(c) This subpart describes when EPA will review the recipient's procurement practices.

§ 33.110 Applicant and recipient certification.

(a) It is the applicant's and recipient's responsibility to evaluate its own procurement system and to determine whether its system meets the applicable requirements in this part (see § 33.001).

(b) After evaluating its procurement system, the applicant or recipient will complete the "Procurement System Certification" (EPA Form 5700-48). The applicant or recipient will either certify that:

(1) Its system will meet the intent of all the requirements in this part before any procurement action with EPA assistance is undertaken, or

(2) Its current system does not meet the intent of the requirements of this part and, therefore, the applicant will follow the requirements of 40 CFR Part 33 and allow EPA preaward review of proposed procurement actions that will

use EPA funds. The additional requirements for EPA review and approval are contained in Appendix A to this part.

(c) The applicant must submit the signed certification form with the assistance application to the award official.

(d) The certification will be valid for two years or for the length of the project period specified in the assistance agreement, whichever is greater, unless the recipient substantially revises its procurement system or the award official determines that the recipient is not following the intent of the requirements in this part (see § 33.115(b)). If the recipient substantially revises its procurement system, the recipient must re-evaluate its system and submit a revised EPA Form 5700-46.

(e) Even when a recipient certifies its procurement system, the EPA award official retains the authority stated in:

(1) Section 33.210(h) "Recipient's procurement responsibilities," which requires the recipient to receive the award official's prior written approval if the recipient wants to use an innovative procurement method,

(2) Section 33.211 "Recipient reporting requirements," which requires the award official to notify the Department of Labor of certain construction subagreement awards, and obtain all bid or offer tabulations,

(3) Section 33.605(d) "Noncompetitive negotiation," to authorize a noncompetitive award,

(4) Section 33.620(b) "Additional procurement requirements," which requires the award official's prior approval for a sole source award over \$10,000 by an institute of higher education or other nonprofit organization,

(5) Section 33.915 "Award official approval," which requires the award official to approve the recipient's use of a procurement method other than formal advertising for a Superfund remedial action award, and

(6) Subpart G "Protests."

§ 33.115 Procurement system review.

(a) EPA will not substitute its judgment for that of the recipient unless the matter is primarily a Federal concern.

(b) Even if a recipient has a certified procurement system, EPA reserves the right to review a recipient's procurement system or procurement action under an assistance agreement:

(1) To determine if the recipient is following the procurement requirements in this part; or

(2) When there is sufficient reason to believe that the recipient's system may be unacceptable based on:

(i) Information concerning the review or certification of the recipient's procurement system or actions by other Federal agencies or Congress;

(ii) Information from the recipient's cognizant audit agency;

(iii) Information from State agencies and organizations independent of the recipient's procurement activity;

(iv) Recipient responses to the procurement system certification form;

(v) Previous EPA experience with the recipient; or

(vi) Information from contractors or prospective contractors.

(c) If the award official determines that the recipient is not following the procurement requirements it certified it would follow, the award official shall revoke the recipient's certification and:

(1) Require that the recipient follow the procurement requirements in this part, including Appendix A, for future procurement actions and, if appropriate,

(2) Apply the sanctions in 40 CFR Part 30.

(d) The recipient may recertify its procurement system if it shows the award official that it has corrected the procurement deficiencies noted by the award official, and the award official accepts the recertification.

Subpart B—Procurement Requirements

§ 33.205 Applicability and scope of this subpart.

This subpart contains:

(a) The recipient's and EPA's responsibilities, and

(b) The minimum procurement standards for each recipient's procurement system.

§ 33.210 Recipient responsibility.

(a) The recipient is responsible for the settlement and satisfactory completion in accordance with sound business judgment and good administrative practice of all contractual and administrative issues arising out of subagreements entered into under the assistance agreement. This includes issuance of invitations for bids or requests for proposals, selection of contractors, award of subagreements, settlement of protests, claims, disputes and other related procurement matters.

(b) The recipient shall maintain a subagreement administration system to assure that contractors perform in accordance with the terms, conditions and specifications of their subagreements.

(c) The recipient shall review its proposed procurement actions to avoid purchasing unnecessary or duplicative items.

(d) The recipient shall consider consolidating its procurement or dividing it into parts to obtain a more economical purchase.

(e) Where appropriate, the recipient shall make an analysis of lease versus purchase alternatives in its procurement actions.

(f) A recipient of a remedial action cooperative agreement awarded under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 must obtain the EPA award official's approval to use a procurement method other than the formal advertising method (see Subpart E).

(g) A recipient may request technical and legal assistance from the award official for the administration and enforcement of any subagreement awarded under this Part. However, such assistance does not relieve the recipient of its responsibilities under this Part.

(h) A recipient may use innovative procurement methods or procedures only if it receives the award officials' prior written approval.

§ 33.211 Recipient reporting requirements.

Recipients shall notify the award official, in writing, of each construction subagreement which has or is expected to have an aggregate value over \$10,000 within a 12-month period. The recipient shall notify the award official within ten (10) calendar days after the award of each construction subagreement. The notice shall include:

(a) Name, address, telephone number and employee identification number of the construction contractor,

(b) Amount of the award,

(c) Estimated starting and completion dates,

(d) Project number, name and site location of the project, and

(e) Copy of the tabulations of bids or offerors and the name of each bidder or offeror.

§ 33.220 Limitation of subagreement award.

(a) The recipient shall award subagreements only to responsible contractors that possess the potential ability to perform successfully under the terms and conditions of a proposed procurement. A responsible contractor is one that has:

(1) Financial resources, technical qualifications, experience, organization and facilities adequate to carry out the project, or a demonstrated ability to obtain these;

(2) Resources to meet the completion schedule contained in the subagreement;
 (3) A satisfactory performance record for completion of subagreements;

(4) Accounting and auditing procedures adequate to control property, funds and assets, as required in this Part and 40 CFR Part 30; and

(5) Demonstrated compliance or willingness to comply with the civil rights, equal employment opportunity, labor law and other statutory requirements under 40 CFR Part 30.

(b) The recipient shall not make awards to contractors who have been suspended, debarred, or voluntarily excluded under 40 CFR Part 32 nor shall it permit any portion of the work required by the subagreement to be performed at any facility listed on the EPA List of Violating Facilities (see 40 CFR Part 15).

§ 33.225 Violations.

The recipient shall refer violations of law to the local, State or Federal authority with jurisdiction over the matter (see § 30.610).

§ 33.230 Competition.

(a) The recipient shall conduct all procurement transactions in a manner that provides maximum open and free competition.

(b) Procurement practices shall not unduly restrict or eliminate competition. Examples of practices considered to be unduly restrictive include:

(1) Noncompetitive practices between firms;

(2) Organizational conflicts of interest;

(3) Unnecessary experience and bonding requirements;

(4) State or local laws, ordinances, regulations or procedures which give local or in-State bidders or proposers preference over other bidders or proposers in evaluating bids or proposals; or

(5) Placing unreasonable requirements on firms in order for them to qualify to do business.

(c) The recipient may use a prequalification list(s) of persons, firms or products if it:

(1) Updates its prequalified list(s) at least every six months;

(2) Reviews and acts on each request for prequalification made more than 30 days before the closing date for receipt of proposals or bid opening; and

(3) Gives adequate public notice of its prequalification procedure in accordance with the public notice procedures in § 33.410 or § 33.510.

(d) A recipient may not use a prequalified list(s) of persons or firms if the procedure unnecessarily restricts competition. However, this restriction

does not apply to § 33.525 "Optional selection procedure for negotiation and award of subagreements for architectural and engineering services."

§ 33.235 Profit.

(a) Recipients must assure that only fair and reasonable profits are paid to contractors awarded subagreements under EPA assistance agreements.

(b) The recipient shall negotiate profit as a separate element of price for each subagreement in which there is no price competition, or where price is based on cost analysis.

(c) Where the recipient receives two or more bids, profit included in a formally advertised, competitively bid, fixed price subagreement shall be considered reasonable.

(d) Off-the-shelf or catalog supplies are exempt from this section.

§ 33.240 Small, minority, women's, and labor surplus area businesses.

(a) It is EPA policy to award a fair share of subagreements to small, minority, and women's businesses. The recipient must take affirmative steps to assure that small, minority, and women's businesses are used when possible as sources of supplies, construction and services. Affirmative steps shall include the following:

(1) Including qualified small, minority, and women's businesses on solicitation lists;

(2) Assuring that small, minority, and women's businesses are solicited whenever they are potential sources;

(3) Dividing total requirements, when economically feasible, into small tasks or quantities to permit maximum participation of small, minority, and women's businesses;

(4) Establishing delivery schedules, where the requirements of the work permit, which will encourage participation by small, minority, and women's businesses;

(5) Using the services and assistance of the Small Business Administration and the Office of Minority Business Enterprise of the U.S. Department of Commerce, as appropriate; and

(6) If the contractor awards subagreements, requiring the contractor to take the affirmative steps in paragraphs (a)(1) through (a)(5) of this section.

(b) [Reserved].

(c) EPA encourages recipients to procure supplies and services from labor surplus area firms.

§ 33.245 Privy of subagreement.

Neither EPA nor the United States shall be a party to any subagreement nor to any solicitation or request for proposals.

§ 33.250 Documentation.

(a) Procurement records and files for procurements in excess of \$10,000 shall include the following:

(1) Basis for contractor selection;

(2) Written justification for selection of the procurement method;

(3) Written justification for use of any specification which does not provide for maximum free and open competition;

(4) Written justification for the type of subagreement;

(5) Basis for award cost or price, including a copy of the cost or price analysis made in accordance with § 33.290 and documentation of negotiations; and

(6) Written justification for rejecting bids.

(b) Recipients must state the reasons for rejecting any or all bids and the justification for procurements on a noncompetitively negotiated basis and make them available for public inspection.

§ 33.255 Specifications.

(a) Recipients must incorporate in their specifications a clear and accurate description of the technical requirements for the material, product or service to be procured. Such description shall not, in competitive procurements, contain features which unduly restrict competition, unless the features are necessary to test or demonstrate a specific thing or to provide for necessary interchangeability of parts and equipment or to promote innovative technologies. The description shall include a statement of the qualitative nature of the material, product or service to be procured and, when necessary, shall set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use.

(b) The recipient shall avoid the use of detailed product specifications if at all possible.

(c) When in the judgment of the recipient it is impractical or uneconomical to make a clear and accurate description of the technical requirements, recipients may use a "brand name or equal" description as a means to define the performance or other salient requirements of a procurement. The recipient need not establish the existence of any source other than the named brand. Recipients must clearly state in the specification the salient requirements of the named brand which must be met by offerors. (An additional specification requirement for recipients of assistance for the construction of treatment works under

40 CFR Part 35, Subparts E and I is contained in § 33.710.)

§ 33.260 Intergovernmental agreements.

(a) To foster greater economy and efficiency, EPA encourages recipients to enter into State and local intergovernmental agreements for common procurement or use of goods and services.

(b) Although intergovernmental agreements are not subject to the requirements in this part, all procurements under intergovernmental agreements are subject to the requirements in this part except for procurements that are:

- (1) Incidental to the purpose of the assistance agreement, and
- (2) Made through a central public procurement unit.

§ 33.265 Bonding and insurance.

(a) These requirements apply only to recipients and contractors with subagreements for construction.

(1) For construction subagreements of \$100,000 or less, the recipient shall follow its own requirements relating to bid guarantees, performance bonds and payment bonds.

(2) For those subagreements more than \$100,000, the award official may accept the recipient's bonding policy and requirements provided the award official makes a determination that the Federal Government's interest is adequately protected. If the award official does not make that determination, the minimum bonding requirements for subagreements more than \$100,000 are:

(i) A "bid guarantee" from each bidder equivalent to five percent of the bid price. The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of the bid, execute such contractual documents as the EPA recipient may require within the time specified.

(ii) A "performance bond" for 100 percent of the subagreement price. A "performance bond" is one that the contractor executes in connection with a subagreement to secure fulfillment of all its obligations under such subagreement.

(iii) A "payment bond" for 100 percent of the subagreement price. A "payment bond" is one that the contractor executes in connection with a subagreement to assure payment as required by law, to all persons supplying labor and material in the execution of the work provided for in the subagreement.

(3) Where bonds are required in the situations described above, bidders and contractors shall obtain them from companies holding certificates of authority as acceptable sureties (31 CFR Part 223).

(b) Recipients and contractors must follow the flood hazard area requirements of the Flood Disaster Protection Act of 1973 contained in 40 CFR Part 30.

§ 33.270 Code of conduct.

(a) Recipients shall maintain a written code or standards of conduct which shall govern the performance of its officers, employees, or agents engaged in the award and administration of subagreements supported by EPA funds. No employee, officer or agent of the recipient shall participate in the selection, award or administration of a subagreement supported by EPA funds if a conflict of interest, real or apparent, would be involved.

(b) Such a conflict would arise when:

(1) Any employee, officer or agent of the recipient, any member of their immediate families, or their partners have a financial or other interest in the firm selected for award, or

(2) An organization which may receive or has been awarded a subagreement employs, or is about to employ, any person under paragraph (b)(1) of this section.

(c) The recipient's officers, employees or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from contractors, potential contractors or other parties to subagreements.

(d) Recipients may set minimum rules where the financial interest is not substantial or the gift is an unsolicited item of nominal intrinsic value.

(e) To the extent permitted by State or local law or regulations, the recipient's code of conduct shall provide for penalties, sanctions or other disciplinary actions for violations of the code by the recipient's officers, employees or agents or by contractors or their agents.

§ 33.275 Federal cost principles.

The following cost principles apply to assistance agreements and subagreements:

(a) State and local governments must comply with OMB Circular A-87 to determine allowable costs.

(b) Educational institutions must comply with OMB Circular A-21 to determine allowable costs and with OMB Circular A-88 for indirect cost rates.

(c) Nonprofit institutions must comply with OMB Circular A-122 to determine allowable costs.

(d) All other recipients, contractors and subcontractors must comply with the cost principles contained in the Federal Procurement Regulations (41 CFR 1-15.2 and, if appropriate, 1-15.4) to determine allowable costs.

§ 33.280 Payment to consultants.

(a) For all EPA assistance agreements, EPA will limit its participation in the salary rate (excluding overhead) paid to individual consultants retained by recipients or by a recipient's contractors or subcontractors to the maximum daily rate for a GS-18. (Recipients may, however, pay contractors and subcontractors more than this amount.) This limitation applies to consultation services of designated individuals with specialized skills who are paid at a daily or hourly rate. This rate does not include transportation and subsistence costs for travel performed; recipients will pay these in accordance with their normal travel reimbursement practices.

(b) Subagreements with firms for services which are awarded using the procurement requirements in this part are not affected by this limitation.

§ 33.285 Prohibited types of subagreements.

The cost-plus-percentage-of-cost (e.g., a multiplier which includes profit) and the percentage-of-construction-cost types of subagreements shall not be used.

§ 33.290 Cost and price considerations.

(a) The recipient shall conduct a cost analysis of all negotiated change orders and all negotiated subagreements estimated to exceed \$10,000.

(b) The recipient shall conduct a price analysis of all formally advertised procurements estimated to exceed \$10,000 if there are fewer than three bidders.

(c) For negotiated procurement, contractors and subcontractors shall submit cost or pricing data in support of their proposals to the recipient.

§ 33.295 Subagreements awarded by a contractor.

A contractor must comply with the following provisions in its award of subagreements. (This section does not apply to a supplier's procurement of materials to produce equipment, materials and catalog, off-the-shelf, or manufactured items.)

(a) 40 CFR Part 32 (Debarment and Suspension Under EPA Assistance Programs);

(b) The limitations on subagreement award in § 33.220 (a)(1) through (a)(5);

(c) The profit requirements in § 33.235.

- (d) The requirements for small, minority, women's and labor surplus area businesses in § 33.240;
- (e) The specification requirements of § 33.255;
- (f) The requirements of Subpart C of this Part, if appropriate;
- (g) The Federal cost principles in § 33.275;
- (h) The prohibited types of subagreements in § 33.285;
- (i) The cost and price considerations in § 33.290, and
- (j) The applicable subagreement provisions in Subpart F of this part.

Small Purchases

§ 33.305 Small purchase procurement.

If the aggregate amount involved in any one procurement transaction does not exceed \$10,000, including estimated handling and freight charges, overhead and profit, the recipient may use small purchase procedures.

§ 33.310 Small purchase procedures.

Small purchase procedures are relatively simple procurement methods that are sound and appropriate for a procurement of services, supplies or other property costing in the aggregate not more than \$10,000.

§ 33.315 Requirements for competition.

(a) Recipients shall not divide a procurement into smaller parts to avoid the dollar limitation for competitive procurement.

(b) Recipients shall obtain price or rate quotations from an adequate number of qualified sources.

Formal Advertising

§ 33.405 Formal advertising procurement method.

(a) The requirements in §§ 33.405 through 33.430 apply to all formally advertised subagreements in excess of \$10,000. Formal advertising means the public solicitation of sealed bids and the award of a subagreement based on a fixed price (lump sum, unit price, or a combination of the two) to the lowest, responsive, responsible bidder.

(b) Formal advertising requires at a minimum:

- (1) A complete, adequate and realistic specification or purchase description of what is required;
- (2) Two or more responsible bidders which are willing and able to compete effectively for the recipient's business;
- (3) A procurement that lends itself to the award of a fixed-price subagreement; and
- (4) That the selection of the successful bidder be made principally on the basis of price.

§ 33.410 Public notice and solicitation of bids.

The recipient shall give adequate public notice of the solicitation, inviting bids and stating when and how the bidding documents may be obtained or examined.

§ 33.415 Time for preparing bids.

The recipient must allow adequate time between the date the public notice is first published and the date by which bids must be submitted.

§ 33.420 Adequate bidding documents.

Recipient's bidding documents shall include:

- (a) A complete statement of work to be performed including, where appropriate, design drawings and specifications and the required performance schedule;
- (b) The terms and conditions of the subagreement to be awarded, including payment, delivery schedules, point of delivery and acceptance criteria;
- (c) A clear explanation of the recipient's method of bidding and the method of evaluating bid prices, and its basis and method for awarding the subagreement;
- (d) Any other responsibility requirements or evaluation criteria which the recipient will use in evaluating bidders;
- (e) The prevailing wage determination, made under the Davis-Bacon Act, if applicable; and
- (f) The deadline and place to submit bids and a copy of § 33.295, Subparts F and G and, if appropriate, EPA Form 5720-4 "Labor Standard Provisions for Federally Assisted Contracts."

§ 33.425 Public opening of bids.

The recipient shall publicly open bids at the place, date and time announced in the bidding documents.

§ 33.430 Award to the lowest, responsive, responsible bidder.

- (a) The recipient shall evaluate all bids in accordance with the methods and criteria in the bidding documents.
- (b) The recipient shall award a fixed-price subagreement to the lowest, responsive, responsible bidder. Where specified in the bidding documents, recipients shall consider factors such as discounts, transportation costs and life cycle costs to determine the low bid. Payments discounts may be used to determine the low bid only when prior experience of the recipient indicates that it generally accepts such discounts.
- (c) The recipient may reject all bids only when it has sound, documented business reasons which are in the best interest of the program for which EPA

assistance is awarded (see § 33.250 "Documentation").

Competitive Negotiation

§ 33.505 Competitive negotiation procurement method.

(a) The requirements in §§ 33.505 through 33.525 apply to all competitively negotiated subagreements in excess of \$10,000.

(b) Recipients may use competitive negotiation only if conditions are not appropriate for the use of the formal advertising method of procurement (see § 33.405).

§ 33.510 Public notice.

(a) The recipient must give adequate public notice for competitively negotiated procurements.

(b) The notice of a request for proposals must state how to obtain associated documents, including a copy of § 33.295, Subparts F and G, the basis for subagreement award, and, if appropriate, EPA Form 5720-4 "Labor Standard Provisions for Federally Assisted Contracts."

(c) Requests for proposals must be written, contain enough information to enable a prospective offeror to prepare a proposal, contain all evaluation criteria and the relative importance attached to each, and clearly state the deadline and place to submit proposals.

§ 33.515 Evaluation of proposals.

(a) Recipients must uniformly and objectively evaluate all proposals submitted in response to the request for proposals.

(b) Recipients must base their determinations of qualified offerors and acceptable proposals solely on the evaluation criteria stated in the request for proposals.

§ 33.520 Negotiation and award of subagreement.

(a) Unless the request for proposals states that award may be based on initial offers alone, the recipient must conduct meaningful negotiations with the best qualified offerors with acceptable proposals within the competitive range, and permit revisions to obtain best and final offers. The best qualified offerors must have equal opportunities to negotiate or revise their proposals. During negotiations, the recipient must not disclose the identity of competing offerors or any information from competing proposals.

(b) The recipient must award the subagreement to the responsible offeror whose proposal is determined in writing to be the most advantageous to the recipient, taking into consideration price

and other evaluation criteria set forth in the request for proposal.

(c) The recipient must promptly notify unsuccessful offerors that their proposals were rejected.

(d) The recipient must document its procurement file to indicate how proposals were evaluated, what factors were used to determine the best qualified offerors within the competitive range, and what factors were used to determine the subagreement award.

§ 33.525 Optional selection procedure for negotiation and award of subagreements for architectural and engineering services.

(a) The recipient may evaluate and select an architect or engineer using the procedures in this section in place of the procedures in § 33.520, "Negotiation and award of subagreements."

(b) The recipient may use either a prequalified list developed in accordance with § 33.230(c) or responses to requests for statement of qualifications to determine the most technically qualified architects or engineers.

(c) After selecting and ranking the most qualified architects or engineers, the recipient will request technical proposals from those architects or engineers and inform them of the evaluation criteria the recipient will use to rank the proposals.

(d) The recipient shall then select and determine, in writing, the best technical proposal.

(e) After selecting the best proposal, the recipient shall attempt to negotiate fair and reasonable compensation with that offeror.

(f) If the recipient and the offeror of the best proposal cannot agree on the amount of compensation, the recipient shall formally terminate negotiations with that offeror. The recipient shall then negotiate with the offeror with the next best proposal. This process will continue until the recipient reaches agreement on compensation with an offeror with an acceptable proposal. Once the recipient terminates negotiations with an offeror, the recipient cannot go back and renegotiate with that offeror.

Noncompetitive Negotiation

§ 33.605 Noncompetitive negotiation procurement method.

Recipients may use noncompetitive negotiation to award a subagreement if the other three procurement methods are inappropriate because:

(a) The item is available only from a single source;

(b) A public exigency or emergency exists and the urgency for the

requirement will not permit a delay incident to competitive procurement;

(c) After solicitation from a number of sources, competition is inadequate; or

(d) The EPA award official authorizes noncompetitive negotiation, subject to the limitation in § 33.715(a)(2).

Subpart C—Requirements for Recipients of Assistance Agreements for the Construction of Treatment Works

§ 33.705 Applicability and scope of this subpart.

Recipients of assistance agreements awarded under 40 CFR Part 35, Subparts E and I must comply with the following requirements.

§ 33.710 Buy American.

Section 215 of the Clean Water Act requires that contractors give preference for the use of domestic material in the construction of EPA funded treatment works.

(a) Contractors must use domestic construction material in preference to nondomestic material if it is priced no more than 6 percent higher than the bid or offered price of the nondomestic material, including all costs of delivery to the construction site and any applicable duty, whether or not assessed. The recipient will normally base the computations on prices and costs in effect on the date of opening of bids or proposals.

(b) The award official may waive the Buy American provision based upon factors he considers relevant, including:

(1) Such use is not in the public interest;

(2) The cost is unreasonable;

(3) The Agency's available resources are not sufficient to implement the provision, subject to the Deputy Administrator's concurrence;

(4) The articles, materials or supplies of the class or kind to be used or the articles, materials or supplies from which they are manufactured are not mined, produced or manufactured in the United States in sufficient and reasonably available commercial quantities or satisfactory quality for the particular project; or

(5) Application of this provision is contrary to multilateral government procurement agreements, subject to the Deputy Administrator's concurrence.

(c) All bidding documents, subagreements, and, if appropriate, requests for proposals must contain the "Buy American" provision in § 33.1030.

§ 33.715 Use of the same architect or engineer during construction.

(a) If the recipient is satisfied with the qualifications and performance of

the architect or engineer who provided any or all of the facilities planning or design services for the project and wishes to retain that firm or individual during construction of the project, it may do so without further public notice and evaluation of qualifications, provided:

(1) The recipient received a facilities planning (Step 1) or design grant (Step 2), and selected the architect or engineer in accordance with EPA's procurement regulations in effect when EPA awarded the grant; or

(2) The award official approves noncompetitive procurement under § 33.605(d) for reasons other than simply using the same individual or firm that provided facilities planning or design services for the project; or

(3) The recipient attests that:

(i) The initial request for proposals clearly stated the possibility that the firm or individual selected could be awarded a subagreement for services during construction; and

(ii) The firm or individual was selected for facilities planning or design services in accordance with procedures in:

(A) Section 33.230 "Competition," and (B) Section 33.250(a)(1), (a)(2) & (a)(3), and (b) "Documentation," and one of the following:

(C) Section 33.305 through 33.315

"Small Purchases," or

(D) Section 33.405 through 33.430

"Formal Advertising," or

(E) Section 33.505 through 33.525

"Competitive Negotiation."

(iii) No employee, officer or agent of the recipient, any member of their immediate families, or their partners have financial or other interest in the firm selected for award; and

(iv) None of the recipient's officers, employees or agents solicited or accepted gratuities, favors or anything of monetary value from contractors or other parties to subagreements.

(b) However, if the recipient uses the procedures in paragraph (a) to retain an architect or engineer, any Step 3 subagreements between the architect or engineer and the recipient must meet all of the other procurement provisions in this part.

Subpart D—Requirements for Institutions of Higher Education and Other Nonprofit Organizations

§ 33.805 Applicability and scope of this subpart.

Recipients who are subject to the provisions of OMB Circular A-110, "Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Nonprofit

Organizations" are not subject to all of the requirements in this part.

§ 33.810 Nonapplicable subagreement clauses.

The following clauses in Subpart F of this part do not apply to institutions of higher education and other nonprofit organizations:

- (a) Energy efficiency (§ 33.1024);
- (b) Changes (§ 33.1030.3);
- (c) Differing site conditions (§ 33.1030.4); and
- (d) Price reduction for defective cost or pricing data (§ 33.1030.8).

§ 33.815 Nonapplicable procurement provisions.

The following procurement provisions do not apply to institutions of higher education and other nonprofit organizations:

- (a) Subparts C and E;
- (b) Sections 33.405 through 33.430 "Formal advertising;"
- (c) Sections 33.505 through 33.525 "Competitive negotiation;"
- (d) Section 33.605 "Noncompetitive negotiation" (see § 33.820(b));
- (e) The requirement in § 33.270(a) "Code of conduct" to have a written code of conduct;
- (f) The provisions of § 33.240 "Small, minority, women's, and labor surplus area businesses" which:
- (1) Encourage the award of a fair share of contracts to women's and labor surplus area businesses;
- (2) Require the specific affirmative action steps in § 33.240(a)(1) through (a)(6); however, nonprofit organizations are required to make positive efforts to use small businesses and minority owned businesses as sources of supplies and services;
- (g) Subpart G "Protests."

§ 33.820 Additional procurement requirements.

(a) Recipients must exclude contractors that develop or draft specifications, requirements, statements of work, invitation for bids, or requests for proposals from competing for awards resulting from the prior effort.

(b) For all proposed sole source subagreements and where only one bid or proposal is received, the recipient must request the award official's prior approval to award the subagreement if the aggregate expenditure is expected to exceed \$10,000.

Subpart E—Requirements for Recipients of Remedial Action Cooperative Agreements Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980

§ 33.905 Applicability and scope of this subpart.

(a) The requirements in §§ 33.910 through 33.915 apply only to remedial actions which EPA funds as part of a cooperative agreement under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund).

(b) Studies, investigations, or engineering activities which precede a remedial action activity are not subject to the requirements in §§ 33.910 through 33.915, but are subject to the requirements in Subparts A, B, F and G of this part.

§ 33.910 Preference for formal advertising.

If a recipient wants to use a procurement method other than formal advertising, it must receive the EPA award official's concurrence with the determination.

§ 33.915 Award official approval.

The award official shall approve the recipient's use of a procurement method other than formal advertising only after the recipient has completed planning remedial activities and selected a cost-effective alternative.

Subpart F—Subagreement Provisions

§ 33.1005 Applicability and scope of this subpart.

(a) This subpart applies to all EPA recipients and describes the minimum content of each subagreement (contract and subcontract).

(b) Nothing in this subpart prohibits a recipient from requiring more assurances, guarantees, or indemnity or other contractual requirements from any party to a subagreement.

§ 33.1010 Requirements for subagreement clauses.

Recipients shall include clauses that meet the requirements of §§ 33.1015 through 33.1021, and the appropriate clauses in § 33.1030, in each procurement subagreement.

§ 33.1015 Subagreement provisions clause.

Each subagreement must include provisions defining a sound and complete agreement, including the:

- (a) Nature, scope, and extent of work to be performed;
- (b) Timeframe for performance;

(c) Total cost of the subagreement; and

(d) Payment provisions.

§ 33.1016 Labor standards provisions.

Recipients shall include a copy of EPA Form 5720-4 "Labor Standards Provisions for Federally Assisted Construction Contracts" in each subagreement for construction (as defined by the Secretary of Labor). The form contains the Davis-Bacon Act requirements (40 U.S.C. 276a—276a-7); the Copeland Regulations (29 CFR Part 3); the Contract Work Hours and Safety Standards Act—Overtime Compensation (940 U.S.C. 327-333) and the nondiscrimination provisions in Executive Order 11246, as amended.

§ 33.1019 Patents data and copyrights clause.

Except for construction grant subagreements, all subagreements shall include notice of EPA requirements and regulations pertaining to reporting and patent rights under any subagreement involving research, developmental, experimental or demonstration work with respect to any discovery or invention which arises or is developed in the conduct of work under a subagreement. This notice shall also include EPA requirements and regulations pertaining to copyrights and rights in data contained in 40 CFR Part 30.

§ 33.1020 Violating facilities clause.

Subagreements in excess of \$100,000 shall contain a provision which requires contractor compliance with all applicable standards, orders or requirements issued under Section 306 of the Clean Air Act (42 U.S.C. 1857(h)), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and EPA regulations (40 CFR Part 15) which prohibit the use under nonexempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities.

§ 33.1021 Energy efficiency clause.

Subagreements shall comply with mandatory standards and policies on energy efficiency contained in the State's energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94-163).

§ 33.1030 Model subagreement clauses.

Recipients must include, when appropriate, the following clauses or their equivalent in each subagreement. Recipients may substitute other terms for "recipient and" "contractor" in their subagreements.



1. Supersession

The recipient and the contractor agree that this and other appropriate clauses in 40 CFR 33.1030 apply to that work eligible for EPA assistance to be performed under this subagreement and that these clause supersede any conflicting provisions of this subagreement.

2. Privity of Subagreement

This subagreement is expected to be funded in part with funds from the U.S. Environmental Protection Agency. Neither the United States nor any of its departments, agencies or employees is, or will be, a party to this subagreement or any lower tier subagreement. This subagreement is subject to regulations contained in 40 CFR Part 33 in effect on the date of the assistance award for this project.

3. Changes

(a) *The following clause applies only to subagreements for construction.* (1) The recipient may at any time, without notice to any surety, by written order designated or indicated to be a change order, make any change in the work within the general scope of the subagreement, including but not limited to changes:

(i) In the specifications (including drawings and designs);

(ii) In the time, method or manner of performance of the work;

(iii) In the recipient-furnished facilities, equipment, materials, services or site, or

(iv) Directing acceleration in the performance of the work.

(2) A change order shall also be any other written order (including direction, instruction, interpretation or determination) from the recipient which causes any change, provided the contractor gives the recipient written notice stating the date, circumstances and source of the order and that the contractor regards the order as a change order.

(3) Except as provided in this clause, no order, statement or conduct of the recipient shall be treated as a change under this clause or entitle the contractor to an equitable adjustment.

(4) If any change under this clause causes an increase or decrease in the contractor's cost or the time required to perform any part of the work under this contract, whether or not changed by any order, the recipient shall make an equitable adjustment and modify the subagreement in writing. Except for claims based on defective specifications, no claim for any change under paragraph (a)(2) above shall be allowed for any costs incurred more than 20 days before the contractor gives written notice as required in paragraph (a)(2). In the case of defective specifications for which the recipient is responsible, the equitable adjustment shall include any increased cost the contractor reasonably incurred in attempting to comply with those defective specifications.

(5) If the contractor intends to assert a claim for an equitable adjustment under this clause, he must, within 30 days after receipt of a written change order under paragraph (a)

(1) or the furnishing of a written notice under paragraph (a) (2), submit a written statement to the recipient setting forth the general nature and monetary extent of such claim. The recipient may extend the 30-day period. The contractor may include the statement of claim in the notice under paragraph (2) of this change clause.

(6) No claim by the contractor for an equitable adjustment shall be allowed if made after final payment under this subagreement.

(b) *The following clause applies only to subagreements for services.* (1) The recipient may at any time, by written order make changes within the general scope of this subagreement in the services or work to be performed. If such changes cause an increase or decrease in the contractor's cost or time required to perform any services under this subagreement, whether or not changed by any order, the recipient shall make an equitable adjustment and modify this subagreement in writing. The contractor must assert any claim for adjustment under this clause in writing within 30 days from the date it receives the recipient's notification of change, unless the recipient grants additional time before the date of final payment.

(2) No services for which the contractor will charge an additional compensation shall be furnished without the written authorization of the recipient.

(c) *The following clause applies only to subagreements for supplies.* (1) The recipient may at any time, by written order and without notice to the sureties, change the general scope of this subagreement in any one or more of the following:

(i) Drawings, designs or specifications where the supplies to be furnished are specifically manufactured for the recipient;

(ii) Method of shipment or packing; and

(iii) Place of delivery.

(2) If any change causes an increase or decrease in the cost or the time required to perform any part of the work under this subagreement, whether or not changed by any such order, the recipient shall make an equitable adjustment in the subagreement agreement price or delivery schedule, or both, and modify the subagreement in writing. The contractor must assert any claim for adjustment under this clause within 30 days from the date the contractor receives the recipient's notification of change. If the recipient decides that the facts justify such action, the recipient may receive and act upon any such claim asserted at any time before final payment under this subagreement. Where the cost of property made obsolete or excess as a result of a change is included in the contractor's claim for adjustment, the recipient has the right to prescribe the manner of disposition of such property. Nothing in this clause shall excuse the contractor from proceeding with the subagreement as changed.

4. Differing Site Conditions

The following clause applies only to construction subagreements. (a) The

contractor shall promptly, and before such conditions are disturbed, notify the recipient in writing of:

(1) Subsurface or latent physical conditions at the site differing materially from those indicated in this subagreement, or

(2) Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in this subagreement.

(b) The recipient shall promptly investigate the conditions. If it finds that conditions materially differ and will cause an increase or decrease in the contractor's cost or the time required to perform any part of the work under this subagreement, whether or not changed as a result of such conditions, the recipient shall make an equitable adjustment and modify the subagreement in writing.

(c) No claim of the contractor under this clause shall be allowed unless the contractor has given the notice required in paragraph (a) of this clause. However, the recipient may extend the time prescribed in paragraph (a).

(d) No claim by the contractor for an equitable adjustment shall be allowed if asserted after final payment under this subagreement.

5. Suspension of Work

The following clause applies only to construction subagreements. (a) The recipient may order the contractor in writing to suspend, delay or interrupt all or any part of the work for such period of time as the recipient may determine to be appropriate for the convenience of the recipient.

(b) If the performance of all or any part of the work is suspended, delayed or interrupted for an unreasonable period of time by an act of the recipient in administration of this subagreement, or by the recipient's failure to act within the time specified in this subagreement (or if no time is specified, within a reasonable time), the recipient shall make an adjustment for any increase in the cost of performance of this subagreement (excluding profit) necessarily caused by such unreasonable suspension, delay or interruption and modify the contract writing. However, no adjustment shall be made under this clause for any suspension, delay or interruption to the extent (1) that performance would have been so suspended, delayed or interrupted by any other cause, including the fault or negligence of the contractor, or (2) for which an equitable adjustment is provided for or excluded under any other provision of this subagreement.

(c) No claim under this clause shall be allowed (1) for any costs incurred more than 20 days before the contractor notified the recipient in writing of the act, or failure to act, involved (this requirement does not apply to a claim resulting from a suspension order), and (2) unless the amount claimed is asserted in writing as soon as practicable after the termination of such suspension, delay or interruption, but not later than the date of final payment under the subagreement.

6. Termination

(a) This subagreement may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligations under this subagreement through no fault of the terminating party, provided that no termination may be effected unless the other party is given (1) not less than ten (10) calendar days' written notice (delivered by certified mail, return receipt requested) of intent to terminate, and (2) an opportunity for consultation with the terminating party prior to termination.

(b) This subagreement may be terminated in whole or in part in writing by the recipient for its convenience, provided that the contractor is given (1) not less than ten (10) calendar days' written notice (delivered by certified mail, return receipt requested) of intent to terminate, and (2) an opportunity for consultation with the terminating party prior to termination.

(c) If termination for default is effected by the recipient, an equitable adjustment in the price provided for in this subagreement shall be made, but (1) no amount shall be allowed for anticipated profit on unperformed services or other work, and (2) any payment due to the contractor at the time of termination may be adjusted to cover any additional costs to the recipient because of the contractor's default. If termination for default is effected by the contractor, or if termination for convenience is effected by the recipient, the equitable adjustment shall include a reasonable profit for services or other work performed. The equitable adjustment for any termination shall provide for payment to the contractor for services rendered and expenses incurred prior to the termination. In addition to termination settlement costs reasonably incurred by the contractor relating to commitments which had become firm prior to the termination.

(d) Upon receipt of a termination action under paragraphs (a) or (b) above, the contractor shall (1) promptly discontinue all affected work (unless the notice directs otherwise), and (2) deliver or otherwise make available to the recipient all data, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by the contractor in performing this subagreement, whether completed or in process.

(e) Upon termination under paragraphs (a) or (b) above, the recipient may take over the work and may award another party a subagreement to complete the work under this subagreement.

(f) If, after termination for failure of the contractor to fulfill contractual obligations, it is determined that the contractor had not failed to fulfill contractual obligations, the termination shall be deemed to have been for the convenience of the recipient. In such event, adjustment of the subagreement price shall be made as provided in paragraph (c) of this clause.

7. Remedies

Unless otherwise provided in this subagreement, all claims, counter-claims, disputes and other matters in question between the recipient and the contractor

arising out of, or relating to, this subagreement or the breach of it will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State in which the recipient is located.

8. Price Reduction for Defective Cost or Pricing Data

[Note.—The following clause applies to (1) any subagreement negotiated between the recipient and its contractor in excess of \$100,000; (2) negotiated subagreement amendments or change orders in excess of \$100,000 affecting the price of formally advertised, competitively awarded, fixed price subagreement, or (3) any lower tier subagreement or purchase order in excess of \$100,000 under a subagreement other than a formally advertised, competitively awarded, fixed price subagreement. This clause does not apply to subagreements awarded on the basis of effective price competition.]

(a) The contractor and subcontractor, where appropriate, assure that the cost and pricing data submitted for evaluation with respect to negotiation of prices for negotiated subagreements, lower tier subagreements and change orders is based on current, accurate and complete data supported by their books and records. If the recipient or EPA determines that any price (including profit) negotiated in connection with this subagreement, lower tier subagreement or amendment thereunder was increased by any significant sums because the data provided was incomplete, inaccurate or not current at the time of submission, then such price or cost or profit shall be reduced accordingly and the recipient shall modify the subagreement in writing to reflect such action.

(b) Failure to agree on a reduction shall be subject to the remedies clause of this subagreement.

[Note.—Since the subagreement is subject to reduction under this clause by reason of defective cost or pricing data submitted in connection with lower tier subagreements, the contractor may wish to include a clause in each lower tier subagreement requiring the lower tier subcontractor to appropriately indemnify the contractor. It is also expected that any lower tier subcontractor subject to such indemnification will generally require substantially similar indemnification for defective cost or pricing data submitted by lower tier contractors.]

9. Audit: Access to Records

(a) The contractor shall maintain books, records, documents and other evidence directly pertinent to performance on EPA funded work under this subagreement in accordance with generally accepted accounting principles and practices consistently applied, and 40 CFR Part 30 in effect on the date of execution of this subagreement. The contractor shall also maintain the financial information and data used in the preparation or support of the cost submission required under 40 CFR 33.290 for any negotiated subagreement or change order and a copy of the cost summary submitted to the recipient. The United States Environmental Protection Agency, the

Comptroller General of the United States, the United States Department of Labor, the recipient, and (the State) or any of their authorized representatives shall have access to all such books, records, documents and other evidence for the purpose of inspection, audit and copying during normal business hours. The contractor will provide proper facilities for such access and inspection.

(b) If this is a formally advertised, competitively awarded, fixed price subagreement, the contractor agrees to make paragraphs (a) through (g) of this clause applicable to all negotiated change orders and subagreement amendments affecting the subagreement price. In the case of all other types of prime subagreements, the contractor agrees to make paragraphs (a) through (g) applicable to all subagreements he awards in excess of \$100,000, at any tier, and to make paragraphs (a) through (g) of this clause applicable to all change orders directly related to project performance.

(c) Audits conducted under this provision shall be in accordance with generally accepted auditing standards and with established procedures and guidelines of the reviewing or audit agency(ies).

(d) The contractor agrees to disclose all information and reports resulting from access to records under paragraphs (a) and (b) of this clause to any of the agencies referred to in paragraph (a).

(e) Records under paragraphs (a) and (b) above shall be maintained by the contractor during performance on EPA assisted work under this subagreement and for the time periods specified in 40 CFR Part 30. In addition, those records which relate to any controversy arising under an EPA assistance agreement, litigation, the settlement of claims arising out of such performance or to costs or items to which an audit exception has been taken shall be maintained by the contractor for the time periods specified in 40 CFR Part 30.

(f) Access to records is not limited to the required retention periods. The authorized representatives designated in paragraph (a) of this clause shall have access to records at any reasonable time for as long as the records are maintained.

(g) This right of access clause applies to financial records pertaining to all subagreements (except formally advertised, competitively awarded, fixed price subagreements) and all subagreement change orders regardless of the type of subagreement, and all subagreement amendments regardless of the type of subagreement. In addition this right of access applies to all records pertaining to all subagreements, subagreement change orders and subagreement amendments:

(1) To the extent the records pertain directly to subagreement performance;

(2) If there is any indication that fraud, gross abuse or corrupt practices may be involved; or

(3) If the subagreement is terminated for default or for convenience.

10. Covenant Against Conflicting Fees

The contractor assures that no person or selling agency has been employed or retained

to solicit or secure this subagreement upon an agreement or understanding for a commission, percentage, brokerage or contingent fee excepting bona fide employees or bona fide established commercial or selling agencies maintained by the contractor for the purpose of securing business. For breach or violation of this assurance, the recipient shall have the right to annul this agreement without liability or, at its discretion, to deduct from the contract price or consideration, or otherwise recover the full amount of such commission, percentage, brokerage or contingent fee.

11. Gratuities

(a) If the recipient finds after a notice and hearing that the contractor or any of the contractor's agents or representatives offered or gave gratuities (in the form of entertainment, gifts or otherwise) to any official, employee or agent of the recipient, the State or EPA in an attempt to secure a subagreement or favorable treatment in awarding, amending or making any determinations related to the performance of this subagreement, the recipient may, by written notice to the contractor, terminate this subagreement. The recipient may also pursue other rights and remedies that the law or this subagreement provides. However, the existence of the facts on which the recipient bases such findings shall be in issue and may be reviewed in proceedings under the Remedies clause of this subagreement.

(b) In the event this subagreement is terminated as provided in paragraph (a), the recipient may pursue the same remedies against the contractor as it could pursue in the event of a breach of the subagreement by the contractor, and as a penalty, in addition to any other damages to which it may be entitled by law, be entitled to exemplary damages in an amount (as determined by the recipient) which shall be not less than three nor more than ten times the costs the contractor incurs in providing any such gratuities to any such officer or employee.

12. Buy American

This clause applies only to construction subagreements award under 40 CFR Part 38 Subparts E and I. In accordance with section 215 of the Clean Water Act (33 U.S.C. 1251 et seq.) and implementing EPA regulations, the contractor agrees that preference will be given to domestic construction material by the contractor, subcontractors, materialmen and suppliers in the performance of this subagreement.

13. Responsibility of the Contractor

(a) *The following clause applies only to subagreements for services.* (1) The contractor is responsible for the professional quality, technical accuracy, timely completion and coordination of all designs, drawings, specifications, reports and other services furnished by the contractor under this subagreement. If the subagreement involves environmental measurements or data generation, the contractor shall comply with EPA quality assurance requirements in 40 CFR 30.408. The contractor shall, without additional compensation, correct or revise any errors, omissions or other deficiencies in

his designs, drawings, specifications, reports and other services.

(2) The contractor shall perform the professional services necessary to accomplish the work specified in this subagreement in accordance with this subagreement and applicable EPA requirements in effect on the date of execution of the assistance agreement for this project.

(3) The owner's or EPA's approval of drawings, designs, specifications, reports and incidental work or materials furnished hereunder shall not in any way relieve the contractor of responsibility for the technical adequacy of his work. Neither the owner's nor EPA's review, approval, acceptance or payment for any of the services shall be construed as a waiver of any rights under this agreement or of any cause for action arising out of the performance of this subagreement.

(4) The contractor shall be, and shall remain, liable in accordance with applicable law for all damages to the owner or EPA caused by the contractor's negligent performance of any of the services furnished under this subagreement, except for errors, omissions or other deficiencies to the extent attributable to the owner, owner-furnished data or any third party. The contractor shall not be responsible for any time delays in the project caused by circumstances beyond the contractor's control.

(5) The contractor's obligations under this clause are in addition to the contractor's other express or implied assurances under this subagreement or State law and in no way diminish any other rights that the owner may have against the contractor for faulty materials, equipment or work.

(b) *The following clause applies only to subagreements for construction.* (1) The contractor agrees to perform all work under this subagreement in accordance with this agreement's designs, drawings and specifications.

(2) The contractor guarantees for a period of at least one (1) year from the date of substantial completion of the work that the completed work is free from all defects due to faulty materials, equipment or workmanship and that he shall promptly make whatever adjustments or corrections which may be necessary to cure any defects, including repairs of any damage to other parts of the system resulting from such defects. The owner shall promptly give notice to the contractor of observed defects. In the event that the contractor fails to make adjustments, repairs, corrections or other work made necessary by such defects, the owner may do so and charge the contractor the cost incurred. The performance bond shall remain in full force and effect through the guarantee period.

(3) The contractor's obligations under this clause are in addition to the contractor's other express or implied assurances under this subagreement or State law and in no way diminish any other rights that the owner may have against the contractor for faulty materials, equipment or work.

14. Final Payment

Upon satisfactory completion of the work performed under this subagreement, as a

condition before final payment under this subagreement or as a termination settlement under this subagreement the contractor shall execute and deliver to the owner a release of all claims against the owner arising under, or by virtue of, this subagreement, except claims which are specifically exempted by the contractor to be set forth therein. Unless otherwise provided in this subagreement, by State law or otherwise expressly agreed to by the parties to this subagreement, final payment under this subagreement or settlement upon termination of this subagreement shall not constitute a waiver of the owner's claims against the contractor or his sureties under this subagreement or applicable performance and payment bonds.

Subpart G—Protests

§ 33.1105 Applicability and scope of this subpart

This subpart sets forth EPA's administrative process for the rapid resolution of protest appeals filed with the award official.

§ 33.1110 Recipient protest procedures.

(a) Recipients must establish their own procedures for prompt consideration of initial protests concerning their solicitations or contract awards. A "protest" is a written complaint concerning the recipient's solicitation or award of a subagreement. It must be filed with the recipient by a party with a direct financial interest adversely affected by a recipient's procurement action (see § 33.1130 "Review of protest appeal").

(b) The recipient should review each protest received to determine whether it is appropriate to defer the protested procurement action.

(c) If the recipient does not defer the procurement action, it assumes the risk that the award official may disallow the cost of the protested procurement action if the protest appeal is upheld.

§ 33.1115 Protest appeal.

(a) A party with a financial interest which is adversely affected by the recipient's decision on the initial protest may file a "protest appeal" with the award official.

(b) A "protest appeal" is a written complaint filed with the award official regarding the recipient's determination of a protest.

§ 33.1120 Limitations on protest appeals.

(a) The award official shall not accept a protest appeal until the protester has exhausted all administrative remedies at the recipient level.

(b) A protest appeal is limited to the following:

(1) Issues arising under the procurement provisions of this Part, or

(2) Alleged violations of State or local law or ordinances where the award official determines that there is an overriding Federal requirement.

(c) A recipient of a lower tier subagreement (subcontract) may only file a protest appeal for issues which relate to the award of a subagreement by a contractor (see § 33.295 "Subagreements awarded by a contractor").

§ 33.1125 Filing requirements.

(a) Protest appeals must be filed with the Assistant General Counsel for Grants for Headquarters-awarded assistance agreements and with the Office of Regional Counsel for regionally awarded assistance agreements.

(b) A protest appeal must:

- (1) Be written;
- (2) Include a copy of the recipient's determination of the protest;
- (3) State the basis for the appeal; and
- (4) Request a determination under this subpart.

(c) Upon filing a protest appeal with the Regional Counsel or Assistant General Counsel for Grants, as appropriate, the party filing the protest appeal must concurrently transmit a copy of all protest documents and any attachments to all other parties with a direct financial interest which may be adversely affected by the determination of the protest appeal.

(d) The award official will only consider written protest appeals received by the appropriate Counsel's office within seven calendar days after the adversely affected party receives the recipient's determination of protest. However, the adversely affected party can meet the seven-day notice requirement by telegraphing the Counsel within the seven-calendar-day period of its intent to file a protest appeal, provided the adversely affected party submits a complete protest appeal within seven calendar days of the date it sends the telegram. If the seventh day falls on a Saturday, Sunday or holiday, the next working day shall be the last day to submit a protest appeal.

(e) Any party which submits a document to the award official during the course of a protest appeal must simultaneously furnish all other affected parties with a copy of the document.

§ 33.1130 Review of protest appeal.

(a) If the recipient does not receive the initial protest before bid opening or the closing date for receipt of proposals, the award official may dismiss as untimely any protest appeal based upon alleged improprieties in the solicitation which were clearly apparent before bid opening or before the deadline for

receipt of initial proposals. In negotiated procurements, protests of alleged improprieties which were incorporated in a new solicitation must have been received by the recipient by the closing date for receipt of proposals for the new solicitation.

(b) In cases not involving improprieties in the solicitation, the award official may dismiss as untimely a protest appeal if the adversely affected party did not file the initial protest with the recipient within seven calendar days of the date the basis for the protest was known or should have been known, whichever is earlier.

§ 33.1140 Deferral of procurement action.

When the award official receives a protest appeal and the recipient has not deferred the procurement action under § 33.1110(b), the award official must promptly request that the recipient defer the protested procurement action until the award official notifies the recipient of the formal or informal resolution of the appeal. The request shall be limited to the award of the subagreement or subitem which is the basis of the protest appeal.

§ 33.1145 Award official's review.

(a) The award official may establish rules of procedures or deadlines for the submission of materials or the arrangement of protest appeal conferences.

(b) The award official may summarily dismiss an appeal without proceedings under this subpart if:

(1) The protest appeal is not reviewable, see § 33.1130, or addresses issues other than those allowed under § 33.1120(b);

(2) The protester substantially fails to comply with the procedural requirements of this subpart; or

(3) The protester does not agree to the recipient's request for a reasonable extension of the bid and bond period.

(c) The award official may summarily deny a protest appeal without proceedings under this subpart if, after considering the facts in a light most favorable to the protester, the award official believes that the protest lacks merit.

(d) The award official will give both the recipient and the protester, as well as any other party with a financial interest which may be adversely affected by the determination of protest, an opportunity to present arguments in support of their views in writing or at a conference.

(e) After the announced date for receipt of written arguments, the record shall be closed.

(f) The award official shall review the record considered by the recipient and any other documents or arguments presented by the parties to determine whether the recipient has complied with the procurement requirements of this part and has a rational basis for its determination of protest.

(g) The award official's determination shall constitute final EPA action from which there shall be no further administrative appeal. No party may appeal an award official's determination of appeal to the EPA Board of Assistance Appeals.

(h) Nothing in this subpart precludes the award official from reviewing the recipient's procurement action. (See § 33.115.)

(i) Noncompliance with the award official's determination of protest shall be cause for an action against the recipient under 40 CFR Part 30 or 32.

(j) If an appeal involves legal issues not explicitly addressed by this part, the award official shall resolve the issue by referring to other protest determinations under this section and decisions of the Comptroller General of the United States or of the Federal courts addressing Federal requirements comparable to procurement requirements of this part.

Appendix A.—Procedural Requirements for Recipients Who Do Not Certify Their Procurement Systems, or for Recipients Who Have Their Procurement Certifications Revoked By EPA

(a) The following procedural requirements apply to recipients who:

- (1) Do not certify to EPA that their procurement system meets the minimum procurement requirements in this part, or
- (2) Have their procurement certification revoked by the award official, as stated in § 33.115(b).

(b) Those recipients must comply with the requirements in this part plus the following procedural requirements. These procedural requirements supplement the requirements in the sections cited.

(1) To comply with § 33.250, "Documentation," the recipient must submit to the award official the records required by this section.

(2) To comply with § 33.290, "Cost and price considerations," the recipient's contractors and subcontractors must submit their cost or price data on EPA Form 5700-41, "Cost or Price Summary Format for Subagreements Under U.S. EPA Grants," or in another format which provides information similar to that required by EPA Form 5700-41.

(3) To comply with § 33.415, "Time for preparing bids," the recipient must allow at least 30 days between the date when it first publishes the public notice and the date by which bids must be submitted.

(4) To comply with § 33.415, "Public notice and solicitation of bids," the recipient must publish the notice in professional journals,

newspapers, or publications of general circulation over a reasonable area for at least 30 days before bid opening.

(5) To comply with § 33.510, "Adequate public notice," the recipient must publish the notice in professional journals, newspapers, or publications of general circulation over a reasonable area for at least 30 days before the deadline for receipt of proposals. The recipient may use posted public notices or written notification directed to interested persons, firms or professional organizations.

(FR Doc. 83-7084 Filed 3-25-83; 8:48 am)

BILLING CODE 6990-50-42

(v) 10 grams per ton from weaning up to 120 pounds for increased rate of weight gain and improved feed efficiency, followed by 5 to 10 grams per ton to market weight for increased rate of weight gain. For continuous use from weaning to market weight.

Effective date, July 1, 1983.

(Sec. 812(i), 82 Stat. 347 (21 U.S.C. 380b(i)))

Dated: June 22, 1983.

Robert A. Baldwin,
Associate Director for Scientific Evaluation.
(FR Doc. 82-17610 Filed 6-20-83; 9:48 am)
BILLING CODE 4160-01-01

POSTAL SERVICE

39 CFR Part 111

Virgin Islands; Mail Security Regulations

AGENCY: Postal Service.

ACTION: Final rule.

SUMMARY: The Postal Service adopts, without change, its proposal to amend its regulations to authorize its employees, in accordance with a recently-enacted law, to permit Virgin Islands tax officials to record the names and addresses on mail parcels appearing to contain taxable merchandise originating outside the Islands and to be delivered in the Islands. No mail may be opened, delayed, detained, or interfered with under this rule.

EFFECTIVE DATE: August 1, 1983.

FOR FURTHER INFORMATION CONTACT:
Charles R. Braun, (202) 245-4820.

SUPPLEMENTARY INFORMATION: On January 18, 1983, the Postal Service published in the Federal Register, 48 FR 2141, a notice of proposed rulemaking on tax collection assistance in the Virgin Islands. The notice explained that the purpose of the proposal was to effectuate section 302 of Pub. L. No. 97-357 (October 19, 1982), and invited public comments. The Postal Service received no comments on the proposal, and hereby adopts, without change, the following amendment of the Domestic Mail Manual, which is incorporated by reference in the Federal Register. See 39 CFR 111.1 (1982).

of Subjects in 39 CFR Part 111
Postal Service.

Part 111—General Information on Postal Service

Part 115—Mail Security

Part 115 of the Domestic Mail Manual is amended by revising 115.96 to read as follows:

.96 Excise Tax Collection in the Commonwealth of Puerto Rico and the United States Virgin Islands.

Under 48 U.S.C. 741a and 48 U.S.C. 1574, respectively, postal employees in any post office in the Commonwealth of Puerto Rico and the United States Virgin Islands are authorized to permit local excise tax officials to record for tax collection purposes the names and addresses that appear on the exterior of all incoming parcels which appear to contain taxable items, except those sent by registered mail. A postal employee must be present during such recording and no mail may be opened, detained, or delayed for this purpose.

A transmittal letter making these changes in the pages of the Domestic Mail Manual will be published and will be transmitted to subscribers automatically. Notice of issuance of the transmittal letter will be published in the Federal Register as provided in 39 CFR 111.3 (39 U.S.C. 401, 403, 3623(d)).
W. Allen Sanders,
Associate General Counsel, General Law & Administration.

(FR Doc. 82-17628 Filed 6-20-83; 9:48 am)
BILLING CODE 7710-12-01

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 33

[OA-FRL 2291-1]

Procurement Under Assistance Agreements; Correction

AGENCY: Environmental Protection Agency.

ACTION: Final Rule; correction.

SUMMARY: This document corrects a final rule on procurement under EPA assistance agreements that appeared at page 12922 in the Federal Register of Monday, March 28, 1983, (48 FR 12922). This action is necessary to clarify when formal advertising is required in the Superfund program, to clarify when recipients must submit the documentation required in Appendix A, to correct typographical errors and to correct citations in the final rule.

FOR FURTHER INFORMATION CONTACT:
Richard A. Johnson, Grants Administration Division (PM-216),

Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460 (202) 382-5290.

Dated: June 20, 1983.

William Seppit,
Acting Deputy Assistant Administrator for Administration.

Accordingly, the following corrections are made in FR Doc. 83-7084 appearing on page 12922 in the March 28, 1983, issue: 1. On page 12928 in § 33.001(b)(4), "(4) identifies the procurements. . ." is corrected to read "(4) identifies the procurement. . ."

2. On page 12927 in § 33.001(g), "To the extent . . ." is corrected to read, "To the extent . . ."

3. On page 12927 in § 33.001(g), is corrected by deleting ". . . § 33.211 'Recipient reporting requirements' . . ."

4. On page 12928 in the middle of column 1 in § 33.110(e)(3), ". . . negotiation," to authorize a . . ." is corrected to read ". . . negotiation procurement method," to authorize a . . ."

5. On page 12928 in § 33.110(e)(5), ". . . action award, and . . ." is corrected to read, ". . . action construction award, and . . ."

6. On page 12928 in § 33.210(f), ". . . advertising method (see Subpart E)." is corrected to read, ". . . advertising method for a construction award (see Subpart E)."

7. On page 12928 in § 33.211(e), ". . . offerors and the name of each bidder or . . ." is corrected to read ". . . offers and the name of each bidder or . . ."

8. On page 12929 in § 33.225, "(see § 30.610)" is corrected to read "(see 40 CFR 30.610)".

9. On page 12930 in § 33.280(a), ". . . however, pay contractors and subcontractors more than this amount." is corrected to read ". . . however, pay consultants more than this amount."

10. On page 12931 in § 33.430(f), ". . . Federally Assisted Contracts." is corrected to read ". . . Federally Assisted Construction Contracts."

11. On page 12931 in § 33.430(b), "Payments discounts may be used to . . ." is corrected to read "Payment discounts may be used to . . ."

12. On page 12931 in § 33.510(b), ". . . Assisted Contracts." is corrected to read ". . . Assisted Construction Contracts."

13. On page 12932 at the top of column 1, in § 33.520(b), ". . . the request for proposal." is corrected to read, ". . . the request for proposals."

14. On page 12932 in § 33.525(a), ". . . award of subagreements." is corrected to read, ". . . award of subagreement."

15. On page 12933 in § 33.810(a), "(a) Energy efficiency (§ 33.1024):" is corrected to read, "(a) Energy efficiency (§ 33.1021):".

16. On page 12933 in § 33.905(a), "... actions which EPA funds as part of a ..." is corrected to read, "... action construction awards which EPA funds as part of a ...".

17. On page 12933, § 33.1016, is corrected by adding, "(This clause applies only when required by statute.) directly under the section title.

18. On page 12933 in § 33.905(b), "(b) Studies, investigations, or engineering activities which precede a remedial action activity are not subject ..." is corrected to read, "(b) Studies, investigations, or engineering activities, such as design and remedial construction oversight, are not subject ...".

19. On page 12934 in clause 1, "... subagreement and that these clause ..." is corrected to read "... subagreement and that these clauses ...".

20. On page 12934 at the top of column 2 in clause 3, paragraph (b), "... may at any time, by written order make ..." is corrected by adding a comma after "written order".

21. On page 12934 at the bottom of column 3 in clause 5, paragraph (b), "... delay or interruption and modify the contract writing." is corrected to read, "... delay or interruption and modify the subagreement in writing."

22. On page 12936 at the top of column 1 the first paragraph, eleventh line, change the word "contract" to "subagreement".

23. On page 12936 in clause 12, "... subagreements award under 40 CFR Part 35 Subparts E and I." is corrected to read, "... subagreement awards under 40 CFR Part 35, Subparts E and I."

24. On page 12936 in § 33.1110(a), "... concerning their solicitations or contract ..." is corrected to read, "... concerning their solicitations or subagreement ...".

25. On page 12937 in § 33.1125(a), "... Grants for Headquarters—awarded ..." is corrected to read "... Grants for headquarters—awarded ...".

26. On page 12937 in Appendix A, paragraph (a)(2), "... § 33.115(b)." is corrected to read "... § 33.115(c)."

27. On page 12937 in Appendix A, paragraph (b)(1), "... "Documentation," the recipient must submit to the award official the records required by this section." is corrected to read, "... "Documentation," the recipient must submit to the award official, unless he

instructs otherwise, the records required by this section."

28. On page 12937 in Appendix A, paragraph (b)(4), "§ 33.415," is corrected to read "§ 33.410."

[FR Doc. 83-17918 Filed 6-30-83; 9:45 am]
BILLING CODE 6880-89-81

40 CFR Part 52

[A-6-FRL 2360-7]

Approval and Promulgation of Implementation Plans; New Mexico Plan for the Bernalillo County Carbon Monoxide Nonattainment Area

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This rulemaking announces approval of the 1982 State Implementation Plan (SIP) for attainment of the National Ambient Air Quality Standard (NAAQS) for carbon monoxide (CO) in Bernalillo County, New Mexico. This action is based on the demonstration in the plan that it will ensure attainment and maintenance of the CO standard in Bernalillo County, New Mexico by December 31, 1987 as required under Part D of the Clean Air Act (CAA) as amended in 1977. EPA also withdraws the conditional approval and fully approves the 1979 CO SIP control strategy and regulations for Bernalillo County.

EFFECTIVE DATE: August 1, 1983.

ADDRESSES: Copies of the State's submittal and other relevant material are available for public inspection during normal business hours at the following locations:

Middle Rio Grande Council of Governments, 924 Park Avenue SW., Albuquerque, N.M. 87102
The Office of the Federal Register, 1100 L Street NW., Room 8401, Washington, D.C. 20408
Public Information Reference Unit, Library Systems Branch, Environmental Protection Agency, 401 M Street SW., Washington D.C. 20460
Environmental Protection Agency, Region 6, Air Programs Branch, 1201 Elm Street, Dallas, Texas 75270.

FOR FURTHER INFORMATION CONTACT: Robert Broyles, State Programs Section, Air Branch, Environmental Protection Agency, Region 6, 1201 Elm Street, Dallas, Texas 75270, (214) 767-2742.

SUPPLEMENTAL INFORMATION:

I. Background

On June 28, 1982, pursuant to Part D of

the Clean Air Act, the State of New Mexico submitted a 1982 SIP revision to EPA for attainment of the CO standard in Bernalillo County by December 31, 1987. The EPA proposed approval of this plan on November 10, 1982 (47 FR 50927), after a review of the plan in accordance with the general requirements for the 1982 Carbon Monoxide and Ozone SIPs published on January 22, 1981 (46 FR 7182). Additional background information can be found in the November 10, 1982, proposal. EPA also proposed to withdraw the conditional approval and fully approve the 1979 CO control strategy and regulations for Bernalillo County.

The proposed approval of the 1982 SIP was issued with the understanding that final action would not be taken until the State formally submitted the Albuquerque/Bernalillo County Air Quality Control Board Regulations governing the I/M program and the Albuquerque Traffic Code amendment pertaining to enforcement of the I/M ordinances as part of the 1982 SIP revision. The Traffic Code amendment makes it a violation of the Code for the owner or operator of a motor vehicle to fail to display on the vehicle windshield a current I/M sticker when required to do so by the city and county I/M ordinances. The city and county ordinances require all gasoline powered light duty vehicles, 1968 and newer, to participate in the I/M program and provides a penalty of up to \$300 and/or 90 days in jail for failure to comply. On January 28, 1983, an addendum to the Bernalillo County CO SIP containing the requested material and appropriate administrative changes to the table of contents and the I/M program description was submitted to EPA by the Governor. Therefore, EPA is today approving the Part D 1982 Bernalillo County CO attainment plan. EPA is also withdrawing the conditional approval and fully approving the 1979 CO control strategy and regulations for Bernalillo County.

II. Response to Comments

A 60 day public comment period was provided on the proposed rulemaking. During this time, one comment was received. The comment came from the Albuquerque Environmental Health and Energy Department and pointed out that the I/M program will apply to "all vehicles, 1968 model year and later" as opposed to "vehicles less than fifteen years old" as indicated in the notice of proposed action. This correction has

PROCUREMENT SYSTEM CERTIFICATION		Form Approved OMB No. 2000-0453 Expires 4-84
SECTION I - INSTRUCTIONS		
This form must accompany each application for EPA Assistance. If the applicant has certified its procurement system to EPA within the past two years and the system has not been substantially revised, complete Part A in Section II, then sign and date the form. If the system has not been certified within the past two years, complete Part B, then sign and date the form.		
SECTION II - CERTIFICATION		
A. I affirm that the applicant has within the past two years certified its procurement system to EPA as complying with 40 CFR Part 33 and that the system has not been substantially revised. The date of the applicant's latest certification is:		MONTH/YEAR
B. Based upon my evaluation of the applicant's procurement system, I, as authorized representative of the applicant: <i>(Check one of the following:)</i>		
☐ 1. CERTIFY that the applicant's procurement system will meet all of the requirements of 40 CFR Part 33 including the attached subparts before undertaking any procurement action with EPA assistance.		
Please furnish citations to applicable State or local ordinances and regulations.		
☐ 2. DO NOT CERTIFY. The applicant will follow the requirements of 40 CFR Part 33 and allow EPA preaward review of proposed procurement actions that will use EPA assistance.		
TYPED NAME & TITLE OF CHIEF EXECUTIVE OFFICER	SIGNATURE	DATE
SECTION III - SUMMARY OF REQUIREMENTS		
Below is a list of subparts and sections of 40 CFR Part 33 which contain some but not all of the requirements for procurements under EPA assistance. The purpose of this list is to assist in the evaluation of the applicant's procurement system to determine if it is certifiable and meets the basic procurement principles as articulated in Part 33. As such, this list highlights certain aspects of the regulations which the recipient shall use in its evaluation process and is not intended to replace a detailed reading of Part 33.		
PART 33 REFERENCE	SECTION TITLE AND SUMMARY	
33.210	<u>SUBAGREEMENT ADMINISTRATION</u> - System must ensure that contractors perform in accordance with all applicable contract requirements.	
33.220	<u>LIMITATION ON RECIPIENT AWARD</u> - System must consider listed factors in determining contractor responsibility.	
33.230	<u>COMPETITION</u> - System must have procurement transaction procedures that provide maximum open and free competition.	

33.235	<u>PROFITS</u> - System procedures must allow only fair and reasonable profits to contractors.
33.240	<u>SMALL, MINORITY, WOMEN'S, AND LABOR SURPLUS AREA BUSINESSES</u> - System must provide for use of these businesses as specified in this section.
33.250	<u>DOCUMENTATION</u> - System must require that procurement records and files for purchases over \$10,000 include items specified in this section.
33.255	<u>SPECIFICATIONS</u> - System procedures for establishing specifications for products or services to be procured must meet requirements of this section.
33.265	<u>BONDING AND INSURANCE</u> - System procedures and requirements related to bonding and insurance must meet requirements of this section.
33.270	<u>CODE OF CONDUCT</u> - System must have a written code or standards of conduct meeting the requirements of this section.
33.275	<u>FEDERAL COST PRINCIPLES</u> - System procedures for determining allowable costs must comply with the cost principles specified in this section.
33.285	<u>PROHIBITED TYPES OF CONTRACTS</u> - System may not allow use of cost-plus-percentage-of cost (multiplier) or percentage-of-construction-cost types of contracts.
33.290	<u>COST AND PRICE CONSIDERATIONS</u> - System procedures must allow for consideration of cost and price as required in this section.
33.295	<u>SUBAGREEMENTS AWARDED BY A CONTRACTOR</u> - System must provide that the contractor's subagreements comply with provisions specified in this section.
33.305-310	<u>SMALL PURCHASE</u> - System small purchase procedures must meet requirements of these sections.
33.405-435	<u>FORMAL ADVERTISING</u> - System procedures related to formal advertising, including those for bidding documents and contract awards, must meet the requirements of these sections.
33.505-535	<u>COMPETITIVE NEGOTIATION</u> - System procedures for competitive negotiation must meet the requirements of these sections.
33.605	<u>NONCOMPETITIVE NEGOTIATION</u> - System procedures for noncompetitive negotiation must meet the requirements of this section.
SUBPARTS C - G	SYSTEM MUST COMPLY WITH REQUIREMENTS IN THESE SUBPARTS:
C	<u>CLEAN WATER ACT REQUIREMENTS</u> - Subpart applies to procurement under assistance agreements for construction of treatment works under the Clean Water Act.
D	<u>REQUIREMENTS FOR INSTITUTIONS OF HIGHER EDUCATION AND OTHER NONPROFIT ORGANIZATIONS</u> - Subpart describes the procurement requirements for nonprofit organizations.
E	<u>REQUIREMENTS FOR RECIPIENTS OF REMEDIAL ACTION COOPERATIVE AGREEMENTS UNDER THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT OF 1980</u> - Subpart describes the additional procurement requirements for recipients of these cooperative agreements.
F	<u>SUBAGREEMENT PROVISIONS</u> - Subagreements for procurement under EPA Assistance must contain the appropriate clauses, or their equivalent, specified in this subpart.
G	<u>PROTESTS</u> - Subpart applies to all applicants for EPA assistance except for nonprofit organizations.

APPENDIX O
ALTERNATIVE JUSTIFIABLE EXPENDITURE
METHOD OF COST ALLOCATION

APPENDIX O

THE ALTERNATIVE JUSTIFIABLE EXPENDITURE METHOD OF COST ALLOCATION

The basic principle behind the Alternative Justifiable Expenditure (AJE) method is to allocate costs of a multiple purpose project among its purposes so that each purpose shares the cost savings resulting from the multiple purpose approach. Grant funding is based on the cost of the pollution control component plus a portion of the joint cost. This policy assumes that achieving several purposes at the same time should be less costly than achieving them separately and that all purposes should share in the cost savings. The grant eligibility for multiple purpose projects of this type will ordinarily be less than eligibility of a single purpose project with the same pollution-control objectives.

The cost allocation steps are:

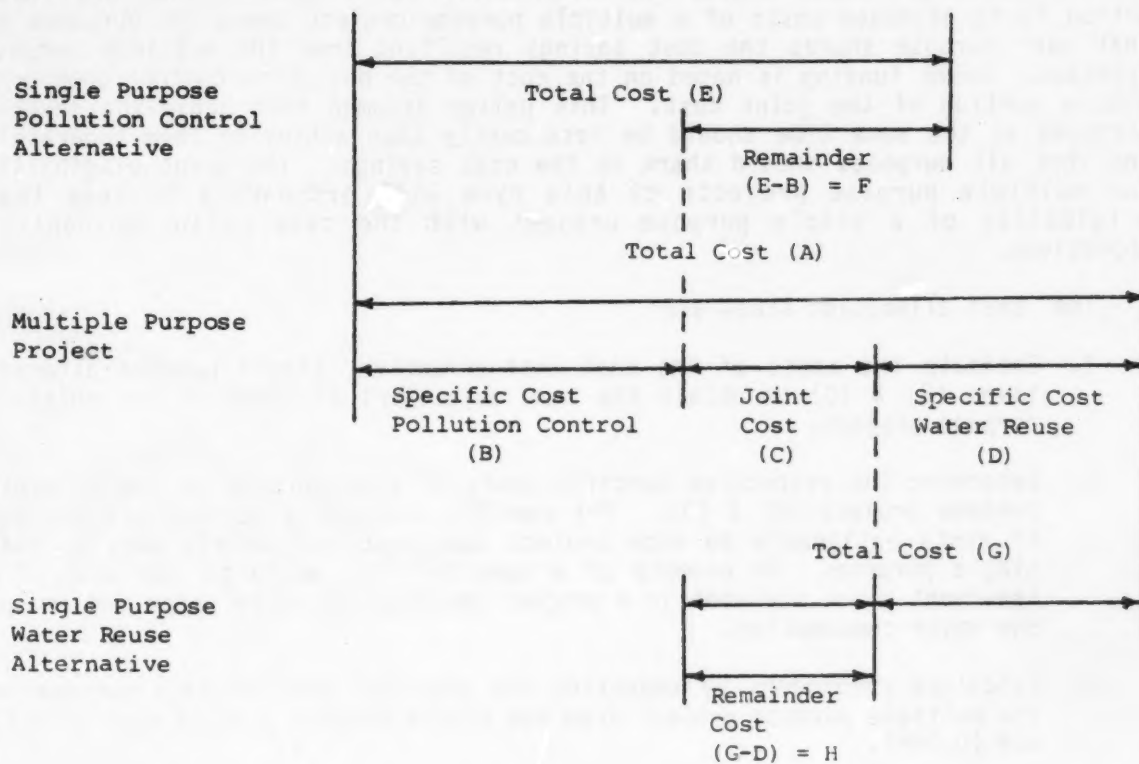
1. Estimate the costs of the most cost-effective, single purpose alternatives (E) & (G) to obtain the same objectives as those of the multiple purpose project.
2. Determine the respective specific costs of each purpose in the multiple purpose project (B) & (D). The specific costs of a purpose are the sum of costs assignable to each project component exclusively serving that single purpose. An example of a specific cost would be the cost of a treatment plant included in a project designed to reuse water and reduce raw water consumption.
3. Calculate remainders by deducting the specific cost of each purpose in the multiple purpose project from the single purpose project cost ($E-B=F$) and ($G-D=H$).
4. From total cost of multiple purpose project (A) deduct all specific costs (B) & (D) to determine joint cost (C).
5. Distribute joint costs of the multiple purpose project among purposes in direct proportion to the remainders found in Step 3.

$$\frac{F}{F+H} \quad \& \quad \frac{H}{F+H}$$

6. To obtain allocated costs for each purpose add the specific and the distributed joint costs for each purpose (J & K).

It should be noted that none of the purposes will be assigned costs which are greater than the cost of the most cost-effective single purpose project nor less than the specific cost of the purpose.

ALTERNATIVE JUSTIFIABLE EXPENDITURE METHOD (continued)



$$\text{Pollution Control Alternative (J)} = B + \left[\left(\frac{F}{F+H} \right) \times C \right]$$

$$\text{Grant Eligible Fraction} = \frac{J}{A}$$

APPENDIX P
CSO GUIDANCE

APPENDIX P

SPECIAL FUND FOR ABATEMENT OF COMBINED SEWER OVERFLOW POLLUTION IN MARINE BAYS AND ESTUARIES

(The Marine CSO Fund)

I. PURPOSE

This guidance describes the special fund for abatement of combined sewer overflow pollution in marine bays and estuaries. It provides the applicant, State and Environmental Protection Agency (EPA) personnel with a description of: the contents of a complete application, the procedure for State and EPA review and evaluation of an application, the evaluation and priority criteria, and technical guidance for the preparation of an application.

II. DISCUSSION

A. Statutory Basis and Legislative History

1. Section 201(n)(2) of the Federal Water Pollution Control Act, enacted as a part of the Municipal Wastewater Treatment Construction Grants Amendments of 1981, authorizes a special fund for abatement of combined sewer overflow (CSO) pollution in marine bays and estuaries (The Marine CSO Fund). Section 201(n)(2) states in part that:

. . . the Administrator shall have available . . . funds . . . to address water quality problems of marine bays and estuaries subject to lower levels of water quality due to the impacts of discharges from combined stormwater and sanitary sewer overflows from adjacent urban complexes . . .

2. The HUD--Independent Agency Appropriations Act for fiscal years 1983 and 1984 provided \$30 million each (for a total of \$60 million) to fund projects under Section 201(n)(2).
3. The 1984 Appropriations Act (PL 98-45) appropriates \$30 million ". . . for projects under Section 201(n)(2), subject to the approval of the Committees on Appropriations . . ." The Conference Report to the 1984 Appropriations Act (Conf. Rpt. 98-264, p. 11) states that the committees ". . . will consider only . . . project segments which can be fully funded and which will provide significant near-term water quality and public health improvements."

B. Regulatory Requirements

1. Applicable Requirements of the Construction Grants Program

Potential marine CSO projects must satisfy most of the same requirements as CSO projects funded under the final construction grants program regulation (Title 40 of the Code of Federal Regulations (CFR), 35.2000 et seq.). These requirements include all applicable limitations on award and grant conditions, as well as Federal share and allowable cost provisions; but exclude 35.2010 (Allotment; reallocation), 35.2015 (State priority system), 35.2020 (Reserves), 35.2021 (Reallocation of reserves), 35.2025(b) (Advance of allowance), 35.2042 (Review of grant applications), 35.2103 (Priority determination), 35.2109 (Step 2+3), and 35.2202 (Step 2+3). A discussion of application procedures and criteria for setting priorities for marine CSO projects is provided below.

Guidance on the construction grants program is provided in an EPA publication series "Construction Grants". This guidance is being updated and will be republished as "Construction Grants 1984." The current guidance, "Construction Grants 1982," is available from the National Technical Information Service, 5258 Port Royal Road, Springfield, VA.22161 (ordering number PB 82 263666).

2. Application Contents

Section 35.2040(f), 35.2040(b) and 35.2024(b)(1) of the construction grants regulation describe the contents of an application for Step 3 grant assistance for building a treatment works to address marine CSOs. The regulation requires an application (EPA Form 5700-32) accompanied by:

- a. A facilities plan, including environmental documents, prepared in accordance with 35.900 et seq. or 35.2000 et seq. as appropriate;
- b. Certification from the State that there has been adequate public participation based on State and local statutes;
- c. Evidence of compliance with all applicable limitations on award (35.2100 through 35.2127, except 35.2103 and 35.2109). Certain requirements are discussed further in Sections 3 and 4 below;
- d. Final design drawings and specifications; or a commitment to provide them by a date set by the Regional Administrator;
- e. The project schedule;
- f. In the case of an application for Step 3 assistance that is solely for the acquisition of eligible real property, a plat which shows the legal description of the property to be acquired, a preliminary layout of the distribution and drainage systems, and an explanation of the intended method of acquiring the real property (see 40 CFR Part 4); and
- g. A demonstration by the State of the water quality benefits of the proposed project. The demonstration shall, at a minimum, prove

that significant usage of the water for shellfishing and swimming will not be possible without the proposed project for correction of combined sewer overflows, and that the proposed project will result in substantial restoration of an existing impaired use. Section IV of this guidance presents ways to demonstrate benefits and costs.

3. Costs and Financial Capability

- a. The applicant should give particular attention to the limitation on award found in Section 35.2104(b). This section requires that the applicant demonstrate the legal, institutional, managerial, and financial capability to ensure adequate building and operation and maintenance of the treatment works. This demonstration must include an explanation of the roles and responsibilities of the local governments involved and how construction and operation of the facilities will be financed; a current estimate of the cost of the facilities; and a calculation of the annual costs per household. It must also include a written certification, signed by the applicant, that the applicant has analyzed the costs and financial impacts of the proposed facilities. Where the application is for a phase or segment (see Section 4), this information must be for the treatment works of which the phase or segment is a part.

Detailed guidance on the demonstration of financial capability is provided in the Agency's Financial Capability Policy effective upon publication in the Federal Register and the supporting "Financial Capability Guidebook." The guidebook is available from the State water pollution control agency or the National Technical Information Service, 5258 Port Royal Road, Springfield, VA 22161.

4. Phased or Segmented Treatment Works

If the application is for a project that is a phase or segment of the proposed treatment works described in the facilities plan, the description of benefits and costs should be for the treatment works and the segment applied for as described in the facilities plan because the criteria applied by EPA in setting priority (Section 6 below) will be applied to the entire facility plan proposal and each segment proposed for funding.

The conditions that any project must meet to be funded as a phase or segment are described in Sections 35.2108 and 35.2005(b)(49). Of particular importance is the requirement that the applicant agree to make the treatment works of which the phase or segment is a part operational and comply with the enforceable requirements of the Act regardless of whether grant funding is available for the remaining phases or segments.

Section 35.2108 also requires that the grant agreement for a phased or segmented treatment works include a schedule of actions to make the treatment works operational and comply with the enforceable requirements of the Act.

5. "Marine Bay or Estuary"

For the purpose of this fund "marine bay or estuary" is defined in Section 35.2005(b)(26) as "semiencllosed coastal waters which have a free connection to the territorial sea."

6. Project Evaluation Process

All eligible applications will be evaluated and priorities established by Headquarters using the criteria specified in Sections 35.2024(b)(2)&(3) of the construction grants regulation. These sections specify that the Administrator shall establish priorities for projects with demonstrated water quality benefits based upon the following criteria:

- a. Extent of water use benefits that would result, including swimming and shellfishing;
- b. Relationship of water quality improvements to project costs; and
- c. National and regional significance.

If the application is for a project that is a phase or segment of the proposed treatment works described in the facilities plan, these criteria will be applied to the treatment works described in the facilities plan and each segment proposed for funding. In applying criterion (1), EPA will consider the total benefits resulting from project or segment completion relative to the prospective commitment of Federal funds.

III. PROCEDURAL GUIDANCE

A. The general regulations that pertain to processing applications for EPA Grants are found in 40 CFR Part 30. The applicant may obtain application materials from the State agency designated by the Governor as having the responsibility for administration of the construction grants program under Section 205 (b) of the Clean Water Act. The applicant should send the completed application to the State agency.

B. The State agency should (1) review and approve: (a) the application, (b) the facilities plan, and c) the project design; (2) determine compliance with other State and Federal requirements; (3) prepare the water quality demonstration described in Section II B 2 above; and (4) send the approved application, and water quality demonstration, to the Regional Administrator.

C. The Regional Administrator shall (1) determine whether all Federal requirements have been met, including completion of environmental review, (2) prepare a statement of regional and national significance, and (3) determine eligibility of the project for consideration for funding.

The Region will send the facility plan including environmental documents, the water quality demonstration, statement of regional and national significance, and summaries of any other relevant material available to support the technical

review of the application to the Office of the Director; Facility Requirements Division (WH-595), 401 M Street, S.W., Washington, D.C., 20460. The Region should retain the balance of the application unless otherwise advised by Headquarters.

D. The information described above should be received in the Office of the Director within 120 days of the publication of the final construction grants regulation (40 CFR, Part 35, Subpart I) in the Federal Register to ensure consideration for funding from the fiscal year 1983 and 1984 appropriations. If funds are appropriated for future fiscal years, applications should be received by September 30 (the end of the fiscal year) to ensure consideration under that year's appropriation.

Generally within 30 days of receipt of an application, EPA headquarters will advise the applicant whether additional information is required. Additional information should be submitted through the above procedures and should be received within 180 days of the publication of the final construction grants regulation in the Federal Register (or November 30 of future years as appropriate) to ensure consideration. Early submittal of applications is strongly encouraged.

The Region should schedule the submission of State approved final design drawings and specifications to allow sufficient time for Regional review, approval, and notification of the Office of the Director within 210 days of the final construction grants regulation in the Federal Register (or January 31 of future years as appropriate).

E. All eligible applications will be evaluated and priorities established by Headquarters using the criteria specified in Section II B 6. Headquarters will prepare project summaries and funding recommendations for transmittal by the Administrator to the House and Senate Appropriations Committees for review in accordance with Public Law 98-45 (the fiscal year 1984 Appropriations Act) and the associated Conference Committee Report. After completion of this process and final project approval, Headquarters will provide obligating authority to the appropriate Regional Administrators.

F. Generally, 45 days after receipt of obligating authority, the Regional office will prepare the grant agreement and transmit it to the applicant for execution. The Region, or State, to the extent it is delegated responsibility to administer the marine CSO program, will monitor the grant and project completion.

IV. TECHNICAL GUIDANCE

A. Water Quality Demonstration

Section 35.2024(b)(1) requires the State to demonstrate the water quality benefits of the proposed project. The demonstration shall at a minimum prove that:

1. Significant usage of the water for shellfishing and swimming will not be possible without the proposed project for correction of combined sewer overflows: and

2. The proposed project will result in substantial restoration of an existing impaired use.

The first requirement involves a demonstration that the proposed project is essential for significant usage of the water for shellfishing and swimming. Other point and nonpoint source controls may also be necessary in addition to the proposed project. The second requirement is a demonstration that the project alone will result in a substantial restoration of use.

The purpose of the first requirement is to consider the marine CSO within a context of the overall water quality conditions. Swimming and shellfishing use potentials should be assessed in terms of all significant point and nonpoint sources. The grant application should compare the severity and extent of water quality problems which can be attributed to the different pollution sources. The analysis of these different point and nonpoint source related water quality problems may have been conducted as part of Statewide or areawide planning under Section 208, State Basin Plans, or other special studies.

To assess whether significant usage for swimming and shellfishing would result without the proposed project, the grant application should present an analysis of expected future water quality conditions with and without additional CSO controls. The alternative of no additional CSO control should assume that all current requirements for point source treatment are satisfied, and all proposed nonpoint source controls, as identified in the adopted water quality management plan, are operational. Projected water quality conditions with no CSO controls should be compared to those likely to result from the proposed project.

The application should discuss nonpoint source problems including urban runoff and their effect on shellfishing and swimming. Where nonpoint source controls are identified, the application should discuss their status, and plans for implementation, if any.

The grant application should identify Federal, State, and local health requirements governing swimming and shellfishing. These requirements will have a bearing on whether improved water quality will actually result in improved uses. The applicant should coordinate with responsible health or recreation authorities and indicate their willingness to lift swimming and shellfishing prohibitions as a result of improved water quality due to the proposed project when implemented with other necessary point and nonpoint controls. The application may also discuss the extent to which use impairment is likely to be prevented by the project.

The second requirement concerns a demonstration that the project alone will result in substantial restoration of an existing impaired use. This demonstration is likely to involve an analysis relating the combined sewer overflows and the resulting water quality. The demonstration is not limited solely to shellfishing and swimming and includes additional uses such as boating and fishing as well as aesthetics. The analysis should show how the proposed project alone will substantially restore prior or currently impaired water uses. The analysis may also discuss the prevention of future use impairment.

The demonstrations for these two requirements will involve a cause and effect analysis relating pollution loads to resulting water quality. Mathematical models are often used for this purpose, however, they are not necessary in all circumstances. Different levels of sophistication may be justified depending on the complexity of the receiving water and combined sewer collection system. Relatively complex situations may require models to make reasonable and justified predictions of future water quality conditions for different CSO control alternatives.

For less complex situations, a relationship between CSOs and beneficial uses could be established from field data and professional judgement. This may occur where the overflows are in immediate vicinity of swimming and shellfishing areas and where receiving water flow and transport patterns clearly show the impact of CSOs on these areas. The cause and effect relationship should be demonstrated with an analysis of field data showing bacteria levels and standards violations as an empirical function of overflows.

It is of primary importance for an applicant to demonstrate a strong relationship between the CSOs and resulting beneficial use impairment. The Headquarter's review will consider the strength of this technical demonstration. Some situations, therefore, may justify more sophisticated techniques and more data than others in order to minimize uncertainty in the loading functions. In such a situation, projects that base benefits on receiving water models may receive higher ranking than those which claim greater benefits based on arbitrary assumptions or unverified analyses.

B. Assessment of Swimming and Shellfishing Benefits

Benefits resulting from proposed marine CSO facilities may be expressed in terms of use factors such as the expected change in the number of days beaches or shellfish beds are open or closed. Determination of an absolute benefit in terms of a single monetary figure is not required and projects will not be ranked by benefit-cost ratios. However, studies which monetize benefits will be reviewed and could provide valuable background and supporting information. Although it is not necessary to quantify benefits into a single number, grant applications should discuss the value and significance of improved uses. For example, the application could cite the following for the area affected by the

CSO:

- Assessment of current water quality conditions
- Requirements of a NPDES permit, EPA administrative order, or a consent decree
- Recreational surveys, studies, or plans
- Historical water uses and existing recreational facilities
- Areal extent of commercial or recreational shellfishing and estimated yields including State requirements affecting allowable yields

- Uniqueness and availability of alternative swimming and shell-fishing sites.
- Physical characteristics affecting use such as water temperature, bottom characteristics, current, tides, salinity, etc.
- Chemical characteristics affecting shellfishing; for example, potential problems from heavy metals or other pollutants
- Population adjacent to the site, potential for use, transportation and access to the site, boat access, etc.
- Potential benefits for existing and future water supplies
- Other specific attributes of the area affected by the CSO which will influence use.

C. Comparison of Benefits and Costs

To evaluate different CSO alternatives, the costs and relative benefits should be compared to the baseline alternative of no additional CSO control. Benefits may be expressed in terms of use factors such as number of days beaches are closed, as previously discussed. Costs and benefits for different alternatives may be plotted and displayed graphically to help determine a cost-effective range where marginal costs are not large compared to incremental benefits. Systematic evaluation of alternatives may have been undertaken as part of previous planning efforts and is required for facilities planning under Section 35.2030. The application should list the structural and non-structural CSO control alternatives considered. Documentation of this analysis will help in the review and evaluation of the grant application.

Applications should display the following costs along with the benefits discussed above for each proposed alternative including all phases or segments of the treatment works of which the proposed project is a part:

- Capital cost
- Yearly operation and maintenance cost
- Average annual equivalent cost for the project alone
- Annual household charges for the project alone and total including existing system charges.

D. Statement of Regional and National Significance

The statement of regional and national significance prepared by the Regional Administrator should be broad in scope and not necessarily limited to swimming and shellfishing. Discussions should focus on the area of immediate CSO impact but may also address the receiving water as it relates to larger ecosystems of which it is a part. For example, the following subjects should be discussed as appropriate:

- Additional shellfishing yields resulting from the project and relation to regional and national production

- Additional swimming opportunities related to other opportunities in the region
- Effect on marine life other than shellfish
- Enhancement of wetlands or habitats of threatened, rare, or endangered species
- Historical significance of the area and proximity to historical and archeological sites
- Enhancement of the aesthetic quality of the waters
- Proximity to parks and recreation areas
- Significance of additional recreational benefits provided by the project such as boating and fishing
- Location of waters with special national, State, or local resource designation
- Other unique features of the area and their relationship to the project

Statements on national and regional significance should relate the measures of project benefit to comparable measures (qualitative or quantitative) presented in reports on the region or nation as appropriate, for example:

- State Comprehensive Outdoor Recreation Plans
- National surveys of outdoor recreation activities (published periodically by the U.S. Department of Interior)
- State shellfish harvest, production, or closure reports
- National reports of shellfish production (published periodically by the U.S. Department of Interior).

APPENDIX Q
40 CFR PART 30
FINAL REGULATIONS

federal register

Friday
September 30, 1983

Part VIII

Environmental Protection Agency

General Regulation for Assistance Programs

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 30

[OA-FRL 2277-2]

General Regulation for Assistance Programs

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: On June 18, 1982, EPA proposed in the Federal Register (47 FR 26564) the General Regulation for Assistance Programs governing grants and cooperative agreements, with a request for comments. Today, we are publishing the final regulation implementing the requirements in the Federal Grant and Cooperative Agreement Act and using plain English, revised to reflect our responses to comments received. This final rule includes only those assistance requirements which are mandated by statute, or Office of Management and Budget (OMB) Circulars, or which are necessary for effective program management. The regulation applies to all EPA financial assistance programs listed in the 66,000 series in the *Catalog of Federal Domestic Assistance*.

DATE: This rule is effective for assistance agreements which EPA awards after September 30, 1983 except for (1) § 30.303(b) which will be effective for assistance agreements EPA awards after September 30, 1983, and (2) Subpart L which will be effective for assistance disputes filed after October 31, 1983, regardless of when EPA awarded the assistance agreement.

FOR FURTHER INFORMATION CONTACT: Richard A. Johnson, Grants Policy Specialist, Grants Policy and Procedures Branch, Grants Administration Division (PM-216), 401 M Street, S.W., Washington, D.C. 20460 (202) 382-5296.

SUPPLEMENTARY INFORMATION: On April 8, 1980, EPA published an "Advance Notice of Proposed Rulemaking" (ANPR) in the Federal Register (45 FR 23700), including a request for comments or recommended changes to our general regulation governing grants and cooperative agreements. We also announced our intent to modify the regulation to implement the requirements in the Federal Grant and Cooperative Agreement Act. At the

same time, we implemented Executive Order 12044 by using plain English and reevaluated the need for certain procedural and regulatory requirements.

Subsequent to the ANPR, President Reagan issued Executive Order 12291. It requires all Federal departments and agencies to review and reduce the burden of their regulations. Consequently, we eliminated most EPA internal operating procedures and most of the detailed procedures that explained how recipients of EPA assistance comply with specific requirements. This final rule does not repeat or summarize requirements contained in other EPA regulations; it simply references them. It includes only items mandated by law, those required by OMB Circulars, and certain additional minimum requirements that EPA considers necessary for sound and effective financial assistance management.

Pub. L. 95-224, the Federal Grant and Cooperative Agreement Act of 1977, 41 U.S.C. 501 et seq., and OMB's study and implementing guidance stress the need for providing uniform and consistent requirements for all assistance programs. A fundamental element of uniform and consistent requirements is clear language and word usage. Therefore, throughout this rule, we use the terminology introduced in the Federal Grant and Cooperative Agreement Act; "assistance agreement" is substituted for "grant," and "recipient" is substituted for "grantee."

This rule incorporates provisions of OMB Circulars A-102 and A-110, which OMB intends to revise. OMB's review may result in major changes to the Circulars and require substantial changes to this rule.

The following table shows the relationship between the former Part 30 and this revised Part 30.

Former section	Former title	New section
30.100	Purpose.....	30.100
30.101	Authority.....	30.101
30.105	Applicability and scope.....	30.105
30.110	Publication.....	Deleted.
30.115	Copies.....	Deleted.
30.120	Citation.....	Deleted.
30.125	Public comment.....	Deleted.
30.130	Grant information.....	30.302
30.135	Definitions.....	30.200
30.135-1	Administrator.....	Deleted.
30.135-2	Agency.....	Deleted.
30.135-3	Allowable costs.....	30.200
30.135-4	Applicant.....	30.200
30.135-5	Budget.....	Deleted.

Former section	Former title	New section
30.136-6	Budget period.....	30.200
30.136-7	Educational institution.....	Deleted.
30.136-8	Eligible costs.....	Deleted.
30.136-9	Federal assistance.....	Deleted.
30.136-10	Grant.....	Deleted.
30.136-11	Grant agreement.....	30.200
30.136-12	Grant approving official.....	Deleted.
30.136-13	Grant award official.....	30.200
30.136-14	Grantee.....	Deleted.
30.136-15	In-kind contribution.....	30.200
30.136-16	Nonprofit organization.....	Deleted.
30.136-17	Project.....	30.200
30.136-18	Project costs.....	30.200
30.136-19	Project officer.....	30.200
30.136-20	Project period.....	30.200
30.136-21	Regional Administrator.....	Deleted.
30.136-22	Subagreement.....	30.200

Subpart A—Basic Policies

30.200	Grant simplification goals and policy.....	Deleted.
30.205	Role of EPA.....	30.100
30.210	Role of the grantee.....	30.306
30.215	Records of grant actions.....	30.500
30.220	Consolidated grants.....	30.200
30.225	Foreign grants.....	30.200
30.225-1	Clearance requirements.....	Deleted.
30.225-2	Criteria for award.....	Deleted.
30.225-3	Allowability of costs.....	Deleted.
30.225-4	Payments.....	Deleted.
30.230	Grants administration review.....	Deleted.
30.235	Disclosure of information.....	30.304
30.245	Fraud and other unlawful or corrupt practices.....	30.610

Subpart B—Application and Award

30.300	Preapplication procedures.....	Deleted.
30.306	A-95 procedures.....	Deleted.
30.306-1	Specific areas of clearing-house evaluation.....	Deleted.
30.306-2	Notification of intent (A-95, Part I).....	Deleted.
30.306-3	Time limitations.....	Deleted.
30.306-4	EPA processing.....	Deleted.
30.306-5	Programs requiring state plans and jointly-funded projects (A-95, Part II).....	Deleted.
30.306-6	Coordination of planning in multijurisdictional areas (A-95, Part IV).....	Deleted.
30.306-7	Confidential information.....	Deleted.
30.306-8	Specific requirements for the Construction Grant Program.....	Deleted.
30.310	Unolicited proposal.....	30.302
30.315	Application requirements.....	Deleted.
30.315-1	Signature.....	30.303
30.315-2	Forms.....	Deleted.
30.315-3	Time of submission.....	Deleted.
30.315-4	Place of submission.....	Deleted.
30.320	Use and disclosure of information.....	30.304
30.325	Evaluation of application.....	Deleted.
30.330	Supplemental information.....	Deleted.
30.335	Criteria for award of grant.....	Deleted.
30.340	Responsible grantee.....	30.301
30.340-1	General policy.....	Deleted.
30.340-2	Standards.....	30.301
30.340-3	Determination of responsibility.....	30.301
30.345	Award of grant.....	30.305
30.345-1	Amount and terms of grant.....	Deleted.
30.345-2	Federal share.....	Deleted.
30.345-3	Grant agreement.....	30.306
30.345-4	Costs incurred prior to execution.....	30.306
30.345-5	Effect of grant award.....	30.309
30.350	Limitation on award.....	30.601 and 30.613
30.355	Continuation grants.....	30.306

Subject C—Other Federal Requirements		
Former section	Former title	New section
30.400	General grant conditions.....	Deleted.
30.400	Statutory conditions.....	30.600.
30.400-1	National Environmental Policy Act.	30.600(a).
30.400-2	Uniform Relocation Assistance and Real Property Acquisition Policies Act.	30.600(i).
30.400-3	Civil Rights Act of 1964.....	30.600(a).
30.400-4	Federal Water Pollution Control Act Amendments of 1972, Section 13.	30.600(c).
30.400-5	Title IX of the Education Amendments of 1972.	30.600(i).
30.400-6	Hatch Act.....	30.600(g).
30.400-7	National Historic Preservation Act.	30.600(a).
30.400-8	Public Law 93-291.....	30.600(a).
30.400-9	Demonstration Cities and Metropolitan Development Act.	40 CFR 29.
30.400-10	Flood Disaster Protection Act.	30.600(b).
30.400-11	Clean Air Act, Section 306.....	30.600(c).
30.400-12	Federal Water Pollution Control Act, Section 508.	30.600(d).
30.410	Executive Orders.....	30.600.
30.410-1	Executive Order 11248.....	30.600(a).
30.410-2	Executive Order 11988.....	30.600 (a) & (b).
30.410-3	Executive Order 11514.....	30-600(a).
30.410-4	Executive Order 11738.....	30.600 (c) & (d).
30.410-5	Executive Order 11980.....	30.600(a).
30.415	Additional requirements—federally assisted construction.	30.603.
30.415-1	Davis-Bacon Act.....	30.603(a).
30.415-2	The Copeland Act.....	30.603(b).
30.415-3	The Contract Work Hours and Safety Standards Act.	30.603(c).
30.415-4	Convict labor.....	30.603(d).
30.420	Additional requirements—all EPA grants.	Deleted.
30.420-1	Prohibition against contingent fees.	30.611.
30.420-2	Officials not to benefit.	30.613.
30.420-3	Prohibition against violating facilities.	30.600.
30.420-4	Conflict of interest.	30.613.
30.420-5	Employment practices.	Deleted.
30.420-6	Conservation and efficient use of energy.	Deleted.
30.425	Special conditions.....	30.309(b).
30.430	Noncompliance.....	30.600.

Subject D—Patents, Data and Copyrights		
30.500	General.....	30.1100.
30.502	Definitions.....	Deleted.
30.505	Required provision regarding patent and copyright infringement.	App. B.
30.510	Patents and inventions.....	30.1101.
30.515	Required patent provision.	App. B.
30.520	Optional patent provision.	Deleted.
30.525	Data and copyrights.....	App. C.
30.530	Required data and copyright provision.	Deleted.
30.540	Deviations.....	30.1104.

Subject E—Administration and Performance of Grants		
30.600	General.....	Deleted.
30.605	Access.....	30.502.
30.610	Rebudgeting of funds.....	700(a).
30.615	Payment.....	Deleted.
30.615-1	Method of payment.....	30.400.
30.615-2	Cash depositories.....	30.400.
30.615-3	Withholding of funds.....	30-902.
30.615-4	Assignment.....	30.405.

Former section	Former title	New section
30.620	Grant related income.....	30.525.
30.620-1	Proceeds from sale of real or personal property.	30.525.
30.620-2	Royalties received from copyrights and patents.	30.525.
30.620-3	Interest earned on grant funds.	30.525.
30.625	Grantee publications and publicity.	30.515.
30.625-1	Publicity.....	Deleted.
30.625-2	Publications.....	30.515.
30.625-3	Signs.....	30.515.
30.630	Surveys and questionnaires.	30.515.
30.635	Reports.....	30.515.
30.635-1	Interim progress reports.....	30.508.
30.635-2	Final report.....	30.508.
30.635-3	Final report.....	30.508.
30.635-4	Invention reports.....	30.508.
30.635-5	Property reports.....	30.508.
30.635-6	[Reserved].....	
30.635-7	Compliance.....	Deleted.
30.640	Utilization of Government procurement sources.	30.536.
30.645	Force account work.	30.520.

Subject F—Project Costs		
30.700	Use of funds.....	30.307.
30.705	Allowable costs.....	30.410.
30.705-1	Payment to consultants.....	40 CFR 33.
30.710	Federal cost principles.....	30.410.
30.715	Direct and indirect costs.....	30.412.
30.715-1	Direct costs.....	30.412.
30.715-2	Indirect costs.....	30.412.
30.720	Cost sharing.....	30.307.
30.725	Cost and price analysis.....	40 CFR 33.
30.725-1	Policy.....	40 CFR 33.
30.725-2	Price analysis.....	40 CFR 33.
30.725-3	Cost analysis.....	40 CFR 33.
30.725-4	Requirements.....	40 CFR 33.

Subject G—Grantee Accountability		
30.800	Financial management.....	30.510.
30.805	Records.....	30.500.
30.810	Property.....	30.531.
30.810-1	Definitions.....	30.200.
30.810-2	Purchase of property.....	30.530.
30.810-3	Property management standards.	30.531.
30.810-4	Title to property.....	30.530.
30.810-5	Real property.....	30.536.
30.810-6	Federally-owned nonexpendable personal property.....	30.536.
30.810-7	Nonexpendable personal property acquired with Federal funds.	30.532.
30.810-8	Expendable personal property acquired with grant funds.	30.532.
30.810-9	Property reports.....	30.505.
30.815	Final settlement.....	30.802.
30.820	Audit.....	30.540.

Subject H—Modification, Suspension and Termination		
30.900	Project changes and grant modifications.....	30.700.
30.900-1	Formal grant amendments.....	30.700.
30.900-2	Administrative grant changes.	Deleted.
30.900-3	Transfer of grants; change of name agreements.	30.700.
30.900-4	Grantee projects changes.....	30.706.
30.915	Suspension of grants—stop-work orders.	30.801.
30.915-1	Use of stop-work orders.	30.801.
30.915-2	Contents of stop-work orders.	30.801.
30.915-3	Issuance of stop-work order.	30.801.
30.915-4	Effect of stop-work order.	30.801.
30.915-5	Disputes provision.....	30.801.

Former section	Former title	New section
30.920	Termination of grants.....	30.903.
30.920-1	Termination agreement.....	30.903.
30.920-2	Project termination by grantee.	30.903.
30.920-3	Grant termination by EPA.....	30.903.
30.920-4	Effect of termination.....	30.903.
30.920-5	Annulment of grant.....	30.904.

Subject I—Deviations		
30.1000	General.....	Subject J.
30.1000-1	Applicability.....	Subject J.
30.1000-2	Request for deviation.....	Subject J.
30.1000-3	Approval of deviation.....	Subject J.

Subject J—Disputes		
30.1100	Final Disputes decision.....	Subject L.
30.1105	Grantee appeal.....	Subject L.
30.1115	Rights of the grantee and the government.	Subject L.
30.1120	Decision of the Administrator.	Subject L.
30.1125	Questions of law.....	Deleted.
30.1130	Delegation of authority.....	Deleted.
30.1135	Appeal procedures.....	Deleted.
30.1140	General Grant Conditions.	Deleted.
30.1145	Patents and inventions.....	Deleted.
30.1150	Rights in Data and Copyrights.	App. C.

Response to Comments

In response to our request for comments on the proposed rule published in the Federal Register (47 FR 28564) on June 18, 1982, we received 19 letters and 2 telephone calls.

Format

This regulation uses a question/answer format designed to make it more readable and understandable and to lead a new applicant through the entire assistance process. In the preamble of the proposed rule, we requested comments on the readability of the rule. All who responded to the question believed the new format assisted them and was preferable to the previous regulation.

Definitions

Several commenters addressed the proposed definitions; the major comments are noted below.

"Allowable costs": One commenter was concerned that the proposed definition excluded costs incurred while performing tasks under a formal amendment. That person suggested that the phrase "and within the scope of work approved by the assistance agreement or formal amendment" be added to the definition. When a formal amendment is executed, it becomes part of the assistance agreement. Therefore, no change is necessary.

"Cooperative agreement and grant agreement": Another commenter wanted

the regulation to specify which programs award grant agreements and which award cooperative agreements. On October 30, 1979, EPA published (44 FR 82331) EPA Order 1000.19 which contains that information. We agree that Part 30 should contain that information and we have added it to the chart of EPA assistance programs in Appendix A.

"Program income": The definition which we proposed included income received from the sale of unneeded property and fees received on royalties. A commenter pointed out that this conflicted with OMB Circular A-102, Attachment E. Therefore, we modified the definition by eliminating the reference to unneeded property and made it clear that fees received on royalties are not program income unless the assistance agreement states that they will be. Unneeded property is handled under the property disposals requirements in § 30.532.

"Unsolicited proposal": A commenter indicated that, as proposed, this definition was inconsistent with § 30.302(c) (§ 30.302(b) in the final rule) which requires all applicants to complete a standard application before receiving an award. In the final rule, we have deleted the phrase "unsolicited proposals need not be submitted on an EPA standard application form" from the definition. An unsolicited proposal is a written request for review of a proposed project. EPA will review an unsolicited proposal in terms of EPA's needs and will determine whether the award should be either a contract or an assistance agreement. Before EPA will award an assistance agreement under this Part you must submit a standard application for the proposal.

Application Process

On July 14, 1982, President Reagan issued Executive Order 12372. That order directed the Director of the Office of Management and Budget (OMB) to revoke the intergovernmental review system governed by OMB Circular A-95 and to develop a new process and regulation to allow States to establish their own processes for State and local elected officials to review and coordinate proposed Federal financial assistance. Under the new system, a State may choose whether to have a consultation process and what Federal programs to cover with the process.

However, the Order directs Federal agencies to operate under the existing A-95 procedure until September 30, 1983. EPA's new regulation, 40 CFR Part 29 (48 FR 29288, June 24, 1983) implements the new process and will be effective for assistance awards made

after September 30, 1983. In this final rule we have deleted all references to OMB Circular A-95. However, the A-95 requirements remain in effect for assistance agreements awarded before October 1, 1983. The A-95 requirements are found in 40 CFR Part 30, as revised through July 1, 1982, (§§ 30.305 through 30.308-8).

Section 30.305 requires recipients to sign and return EPA assistance agreements within three weeks of receiving them from EPA. One commenter thought the requirement to return the signed agreement was unnecessary paperwork which caused delays and suggested that the recipient's application should be sufficient to demonstrate their intent to accept an award. We believe the recipient's signed, formal and timely acceptance of an award is necessary to assure that money is not tied up unduly where recipients decide not to proceed with a project. Also, the requirement reduces the chance for misunderstandings because the recipient acknowledges and accepts all special conditions.

Section 30.306(d) permits EPA to reimburse recipients for allowable costs incurred between the end of a budget period and date of award for the next budget period. A commenter identified an inconsistency between this section and § 35.140(b) of our proposed Part 35, Subpart A, "State and Local Financial Assistance for Continuing Environmental Programs" regulation (47 FR 25912, June 15, 1982). While proposed Part 30 did not address submission of an application, the final Part 35, Subpart A, § 35.141 (47 FR 44946, October 12, 1982) requires that in order to be reimbursed for prior incurred cost, the applicant must submit a continuation application before the expiration of the prior budget period. We think this is necessary for good program management and have included it in this final rule.

Section 30.307 requires recipients to contribute at least five percent of total allowable project cost for each budget period. One commenter objected to the requirement, calling it burdensome and unnecessary. We disagree. The Department of Housing and Urban Development Independent Agencies Appropriation Act (Pub. L. 97-272), which governs EPA, requires recipients of research assistance for proposals not specifically solicited by EPA to cost share. Many EPA recipients fit this category. The extent of cost sharing EPA requires will be at least five percent, but will reflect the mutuality of interest of the recipient and EPA in the project. We do not believe the cost sharing requirement prevents institutions from participating in our programs.

Payment

Section 30.400 describes three alternative methods EPA may use to pay recipients. One commenter was concerned that EPA was limiting advance payments to the initial request with reimbursement thereafter. This was not our intent, so we have clarified that provision. When a recipient submits a "Request for Advance or Reimbursement" (SF-270), it indicates the amount of its expenditures to date and its cash needs for the coming period. EPA's advance payment will be sufficient to meet those future needs, provided the request is reasonable.

Section 30.405 prohibits assigning payment to anyone other than the recipient. A commenter pointed out that this conflicts with § 35.2025(b)(2) of EPA's Grants for Construction of Treatment Works regulation which permits States to assign their payments for advances of allowance to small communities. We have revised this final rule to reflect this exception.

Section 30.410 describes the cost principles applicable to different categories of recipients. A commenter asked which ones apply to "subrecipients" or "subcontractors." Regardless of whether the organization is the recipient of the award or performing services for the recipient, the nature of the organization is the sole criterion for determining applicable cost principles. For example, State governments must comply with OMB Circular A-87; educational institutions must comply with OMB Circulars A-21 and A-88. We have clarified this point.

Section 30.412 defines direct and indirect costs. One commenter believed our proposed definitions were inadequate and inconsistent with OMB's definitions. We accepted this suggestion to rely on the OMB's definitions.

Assistance Management

Section 30.501 requires recipients of construction grants to retain records for three years from the approval date of EPA's final payment. A commenter was concerned about the effect of this requirement on step 1 or step 2 wastewater treatment construction grants since audits are generally performed after the completion of the step 3 grant. We developed this final rule in conjunction with the new construction grant regulation. Under that regulation and in accordance with Pub. L. 97-117, EPA no longer awards step 1 or step 2 construction grants. Step 1 or Step 2 grants awarded before the effective date of this regulation are subject to the previous Part 30.

Section 30.502 establishes EPA's right of access to the recipient's and contractor's project records. As proposed, this provision did not include delegated States under the wastewater treatment construction grants program. We have revised this rule to include delegated States.

Section 30.505(b) requires recipients to submit a financial status report (FSR) within 90 days after the end of each budget period. Several commenters indicated that the FSR is seldom final because it often includes unliquidated obligations. Since a final FSR must show that all obligations are liquidated, we clarified the final rule to state that a FSR is required within 90 days after the end of each budget period and a final FSR is required immediately after all obligations are liquidated. We added a provision to allow the Award Official to disallow unliquidated obligations if they are not expended within a reasonable time after the 90 day period.

Section 30.505(d) requires recipients to submit an annual inventory of all Federally owned property used on the project. Several commenters objected that this requirement exceeds the requirements for property management in OMB Circular A-102. This section applies only to property owned by a Federal agency, and such reports are required by the Circular and the lease agreements. Title to property which recipients purchase with assistance funds vests in the recipient and is governed by § 30.530.

Section 30.518 requires that recipients of EPA assistance comply with EPA Order 2200.4 (December 28, 1981) which establishes a peer and administrative review process for scientific, informational, and educational documents attributable to EPA. The Agency peer and administrative review gives EPA the opportunity to evaluate a document for scientific and informational credibility and to determine an estimated cost for its production and distribution.

Numerous commenters expressed concern that the Agency review requirements violate the principle of academic freedom and would preclude their universities from accepting research awards. EPA now recognizes that the proposed regulation did not adequately clarify the intent of the Agency Order. Our intent is not to become substantially involved in the development of a report, nor is it to mold the final conclusions to fit our policies. Rather, the sole intent of the Order is to insure the high quality, completeness, and accuracy of documents EPA publishes.

Several commenters requested the option to publish research results in their own monographs or laboratory research series or other non-refereed journals before submission of the report to EPA. Under EPA's peer and administrative review process, EPA must decide whether to publish a report as an EPA document or to allow independent publication of the report. The only exception EPA can make is independent publication in a refereed journal because the journal's peer review process replaces an EPA peer review. If EPA decides not to release the report to the public as an EPA publication, the recipient may independently publish the report with the appropriate disclaimer.

Other commenters stated that the Agency's peer and administrative review conflicts with the Federal Grant and Cooperative Agreement Act of 1977, because it represents substantial Federal involvement in the development and delivery of technical reports under research grants. EPA disagrees. The peer review process takes place at the conclusion of a project, not while it is underway. EPA has the right to review and evaluate research results and to make suggestions which EPA feels would enhance the credibility of the report. Recipients do not have to incorporate these suggestions.

Finally, other commenters were concerned that their final reports would not be accepted or assistance agreements closed out until EPA peer reviewers determined their reports were acceptable. Again, the purpose of the Order is to protect the technical and scientific quality of public materials published by EPA. As soon as a decision is reached as to whether the report will be published as an EPA report, the assistance agreements may be closed out. Appropriate time will be included in schedules for future grant and cooperative agreements to permit the conduct of review within the project period.

(Recipients should be aware that EPA considers printing by the National Technical Information Service to be a cost-effective method of publishing EPA documents.)

Section 30.530 governs recipients' purchase of property. Several commenters argued that some provisions of this section exceed the requirements in OMB Circular A-110. In response we revised § 30.530 to be consistent with A-110. In accordance with Section 7(b) of Pub. L. 95-224 (41 U.S.C. 506), generally EPA will not restrict the use or disposition of personal property purchased by non-

profit institutions of higher education, or by non-profit organizations whose primary purpose is the conduct of scientific research, if the property is for the conduct of basic or applied research. However, consistent with A-110, EPA reserves the right to transfer the title to non-expendable personal property with a unit acquisition cost of \$1,000 or more to the Federal Government or a third party by establishing that right in the assistance agreement or otherwise establishing that right in writing.

Other commenters questioned the need for the award official's approval of purchases of property or equipment costing \$10,000 or more, as required in § 30.530(a). We believe that requirement is needed to assure that property or equipment purchased with EPA assistance is both necessary for the project and not available from other sources. To avoid delays, award officials may approve equipment purchases at the time of the award, provided the items and estimated costs are specifically identified in the assistance agreement.

Section 30.531 establishes property management standards for non-expendable personal property. These standards apply to all organizations governed by OMB Circular A-102. In the final rule, we made it clear that they do not apply to certain organizations governed by OMB Circular A-110 unless EPA reserves the right to transfer such property in the assistance agreement.

Section 30.538 prohibits recipients from using excess Government property. One commenter recommended that EPA eliminate this section since he knew of no such statutory prohibition. While there is no statutory prohibition, Section 3 of Pub. L. 94-519 generally requires Federal agencies to pay the United States Treasury 25% of the original acquisition cost of excess Government property whenever such property is transferred to an eligible recipient. Because of the cost to EPA of complying with the 25% payment requirement, it is EPA's policy to prohibit EPA recipients from using excess Government property.

Section 30.540 describes audit requirements. Several commenters requested that we distinguish between audit requirements for A-102 organizations and A-110 organizations. The final rule includes separate provisions for these two groups. A-102 organizations must comply with Attachment P, which requires a recipient to conduct an organization-wide audit once every two years to evaluate the fiscal integrity of its financial system and to determine its compliance with the terms and conditions of the

assistance agreement. A-110 organizations must comply with the provisions of OMB Circular A-88, which requires all Federal agencies to rely on audits performed by agencies assigned audit cognizance for the recipient.

Assistance Agreement Changes

Sections 30.700 and 30.705 identify the types of changes which require prior EPA approval by formal amendment and those which recipients may make without prior EPA approval. Former Part 30 required recipients to get prior EPA approval on budget changes in excess of 10% or \$10,000 of the project budget. The proposed rule did not include these dollar amount restrictions. Several commenters questioned the wisdom of this deletion. We believe the former Part 30 requirements were too stringent and did not provide recipients with sufficient flexibility to manage their projects. Further, the small benefit to EPA provided by this requirement does not justify the costs of processing change requests and related project delays.

Interest Charges

Section 30.802(a) in the proposed rule stated that "final settlement is not complete until all claims, audits, appeals, and litigations are resolved." If the recipient owes EPA funds as a result of any of these actions, it must reimburse the Federal government that amount before the project is settled. We have restructured this section for clarity. § 30.802(b) requires the recipient to pay interest on any amount owed EPA if the recipient fails to pay within 30 days of the date of the award official's determination (see Subpart L).

One commenter questioned EPA's authority to charge interest on overdue debts. Since April 30, 1979, EPA has had the responsibility to assess interest on all debts (Federal Claims Collection Standards, 4 CFR 102.12). In addition, provisions in two EPA appropriations acts (Pub. L. 96-528, § 416, 1980, and Pub. L. 96-304, section 306, 1980) and Office of Management and Budget Circular A-50 require EPA to charge interest on outstanding debts. The Agency implemented this requirement administratively in October 1981. Thus, rather than exceeding authority, EPA actually has been slow in carrying out its responsibility.

We have revised § 30.802, however, to comply with the Federal Debt Collection Act of 1982 (October 25, 1982) which amended the Federal Claims Collection Act of 1966. The 1982 Act directs Federal agencies to assess interest, penalties, and handling charges on all debts, except for the debts of State and local governments. We will continue to

charge State and local governments interest on overdue debts. The General Accounting Office (GAO) in an August 23, 1983, Comptroller General Decision (B-212222, "Debt Collection Administrative Offset and Interest against State and local governments"), stated that although the Debt Collection Act does not apply to State and local governments, the Act does not prohibit Federal agencies from collecting interest charges on the overdue debts of State and local governments. The GAO decision concluded that to the extent that there is authority other than sections 10 and 11 of the Debt Collection Act of 1982 (whether the authority is founded in statute or common law), Federal agencies are authorized to use administrative offset and to assess interest against State and local governments in order to collect debts owed to the United States. The Federal Claims Collection Standards (4 CFR 102.12) and OMB Circular A-50 allows EPA to use administrative offset on debts owed by State and local governments. EPA's authority to collect interest on overdue debts owed by State and local governments to the United States is contained in the Federal Claims Collection Standards, Treasury Fiscal Requirements Manual 6-8000, OMB Circular A-50, Pub. L. 96-528, and Pub. L. 96-304. Accordingly, § 30.802(c) exempts State and local governments from penalty and handling charges, but makes it clear that these types of recipients will be charged interest charges on all overdue debts.

The same commenter also argued that the effect of the interest rule will be "to chill the use of the grant appeal process". We disagree. Once the award official determines that funds are owed to EPA, this is a legitimate debt, subject to interest charges. The interest requirements do not restrict the use of the appeals process.

Before the award official makes a proposed determination, the recipient is given an opportunity to review the proposed findings and present any facts in its favor to alter the decision. Consequently, interest does not begin to accrue until *after* the recipient has an opportunity to rebut the findings. Additionally, since interest does not accrue until 30 days after the award official's proposed decision, the recipient can avoid interest altogether by immediately paying the amount owed in the award official's decision and then appealing.

Non-Compliance Actions

Section 30.900 describes the alternative actions EPA may take when a recipient fails to comply with the

terms and conditions of its assistance agreement. Several commenters questioned the use of "stop work order" and "withholding of payment" actions. They argued that while a "stop work order" is required by the Defense Acquisition Regulations it is not authorized by OMB Circulars A-102 or A-110. We disagree. OMB Circulars A-102, Attachment L, and A-110, Attachment L require Federal agencies to establish procedures to follow when recipients fail to comply with terms and conditions of an agreement. Both Circulars permit Federal agencies, upon reasonable notice to the recipient, to suspend the award, withhold further payments or prohibit the recipient from incurring additional costs. It is EPA policy that full and prompt payment be made to recipients for eligible project costs. However, when recipients are not complying with their assistance agreements, EPA has the responsibility to take corrective actions.

Appeals

One commenter was concerned about the lack of access of the Audit Resolution Board decisions. These decisions are available upon request. You may receive copies of decisions by contacting:

Chairman, EPA Audit Resolution Board, 401 M Street, SW., Washington, D.C. 20460

Section 30.1235 lists EPA decisions that a recipient may not appeal. Several commenters wanted to know why "advanced wastewater treatment decisions of the Administrator" and "policy decisions of the EPA Audit Resolution Board" cannot be appealed. They are not appealable because both decisions are made at high administrative levels in EPA Headquarters. In the first case, the decision is made by the Administrator, and in the second case, the Audit Resolution Board is acting under a delegation from the Administrator. The Audit Resolution Board consists of the Assistant Administrator for Administration, the Associate Administrator for the Office of Legal and Enforcement Counsel, the Assistant Administrator from the affected program office and a Regional Administrator.

Financial Assistance Disputes Procedures. Subpart L sets forth new procedures for resolving assistance disputes between EPA officials and assistance recipients or applicants. Under the existing appeal process, disputes over final decisions in EPA assistance programs ultimately were resolved by the EPA Board of Assistance Appeals (the Board) at EPA

Headquarters. The Board was established by the Agency in 1979 (see 40 CFR Part 30, Subpart J, and the appeal procedures published at 44 FR 48770 August 8, 1979). The existing Board process, which operates outside the Agency's policy and rulemaking system administered by program managers, has made assistance disputes resolution extremely adversarial. Based on this experience, EPA has developed a new administrative review process in Subpart L which it believes is a better system to resolve EPA's assistance disputes. The new process complements other Agency efforts to improve the management of EPA's assistance programs and gives the Agency's program managers full control over and responsibility for the fair and efficient resolution of assistance disputes.

The new process will:

1. Encourage cooperation between the Agency's officials and those applying for and receiving assistance;
2. Develop a good administrative record to support the Agency's final decisions;
3. Provide applicants and recipients high-level review of Agency decisions and a forum for resolving disputes informally, expeditiously, and inexpensively;
4. Provide applicants and recipients a written decision explaining the basis for the position.

Fair and consistent dispute resolution remains a central principle of administering EPA's assistance programs. The procedures in Subpart L continue to give recipients and applicants the right to request a high level review of decisions concerning issues arising under the EPA assistance programs. Under these procedures, disputes over Regional decisions are subject to review by the Regional Administrator and possible further administrative review by the Assistant Administrator of the program office responsible for the assistance program. Decisions concerning assistance programs administered by EPA Headquarters are subject to review by the Assistant Administrator of the appropriate program office. In cases where the Regional Administrator or the Assistant Administrator rendered the initial decision, the request for review will be regarded as a request for reconsideration of that decision.

This new process should be more efficient than the Board system because it is a relatively simple, expeditious, and inexpensive means to resolve disputes. It eliminates the need for the routine involvement of Headquarters personnel in every assistance appeal. For consistency in deciding appeals, the

Headquarters award official and Regional Administrators will be able to consult with the Office of General Counsel and Headquarters program offices. Further, potential access to the Assistant Administrators will help assure consistency.

We have determined that it is appropriate to make Subpart L effective for all new appeals filed after October 31, 1983, regardless of when EPA awarded the financial assistance. Delaying implementation until November 1, 1983, will give EPA Headquarters and Regional program offices the opportunity to prepare for their increased responsibilities in disputes resolution. The EPA Board of Assistance Appeals will resolve appeals docketed before October 1, 1983.

Quality Assurance

EPA's policy is that all environmentally related measurements and data collected and used in EPA assistance programs be scientifically sound, defensible, and of known, acceptable, documented quality. On March 12, 1982, OMB cleared the paperwork requirements of EPA's quality assurance (QA) program. Therefore, we are including the quality assurance requirements in the final rule.

We have added five definitions to § 30.200: "Environmentally related measurements," "quality assurance narrative statement," "quality assurance program plan," "quality assurance project plan," and "standard operating procedure."

Effective with assistance agreements awarded for fiscal year 1984, recipients will need to implement a QA program consistent with EPA's QA policy if their projects involve environmentally related measurements. Recipients must submit with their application a QA plan which meets EPA's requirements in § 30.503.

If you are applying for non-research financial assistance you must submit a QA plan (either a program plan or a project plan), acceptable to the award official, for all programs involving environmentally related measurements (see § 30.302). If you are applying for research financial assistance (either a grant or a cooperative agreement), you must submit a narrative statement on quality assurance, acceptable to the award official with your application.

Section 30.503 explains the required contents of a QA plan. The program or project plan should also comply with the guidelines in the following documents:

1. "Guidelines and Specifications for Preparing Quality Assurance Program Plans," QAMS-004/80 (EPA-600/8-83-024; NTIS PB 83-219867).

2. "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans," QAMS-005/80 (EPA-600/4-83-004; NTIS PB83-170514).

These documents may be obtained by writing to:

National Technical Information Service, 5885
Port Royal Road, Springfield, Virginia 22161

We received several questions on whether the QA policy applies to recipients of wastewater treatment construction grants under Title II of the Clean Water Act. If a construction grant agreement specifically requires the recipient to gather environmentally related data, the recipient must comply with the requirements in § 30.302.

Improper Use of Assistance Funds

On April 28, 1982, the Director of the Office of Management and Budget instructed all Federal agencies to examine existing award procedures to ensure that assistance funds were not being used to influence legislation or appropriations pending before Congress or used for partisan or political advocacy purposes. After reviewing our current practices, we have determined we need to make recipients more aware of this restriction on the use of assistance funds. In the final rule, we have added these restrictions (see § 30.601).

Regulation Development

Under Executive Order 12291, EPA is required to judge whether a regulation is "major" and, therefore, subject to the regulatory impact analysis requirements of the Order. We have determined that this regulation is not "major" as it will not have a substantial impact on the Nation's economy or large numbers of individuals or businesses. There will be no major increase in costs or prices for consumers, individuals, industries, or Federal, State, or local governments. The rule was submitted to the Office of Management and Budget for review as required by Executive Order 12291.

Under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq., the information provisions in this rule have been approved by the Office of Management and Budget (OMB Clearance Nos. 2000-006, 2000-0403, 2010-0003, 2010-0004, and 2010-0065.)

Dated: September 22, 1983.

List of Subjects in 40 CFR Part 30

Administrative practice and procedure, Environmental protection, Grant programs—environmental protection, Inventions and patents,

Copy-right, Reporting and recordkeeping requirements.

Alvin L. Ales,
Acting Administrator.

For the reasons set forth in the preamble, EPA is revising 40 CFR Part 30 to read as follows:

PART 30—GENERAL REGULATION FOR ASSISTANCE PROGRAMS

Subpart A—What is the purpose and scope of this regulation?

- Sec. 30.100 What is the purpose of this regulation?
- Sec. 30.101 What is the scope of this regulation?
- Sec. 30.102 What laws authorize EPA to issue this regulation?

Subpart B—What definitions apply to this regulation?

- Sec. 30.200 What definitions apply to this regulation?

Subpart C—How do I apply for and receive assistance?

- Sec. 30.300 What activities does EPA fund?
- Sec. 30.301 To whom does EPA award assistance?
- Sec. 30.302 How do I apply for assistance?
- Sec. 30.303 What steps must I take when filing a standard application?
- Sec. 30.304 Is the information I submit to EPA confidential?
- Sec. 30.305 How do I find out if EPA approved or disapproved my application?
- Sec. 30.306 How long will I have to complete my project?
- Sec. 30.307 How much must I contribute to the funding of my project?
- Sec. 30.308 When may I begin incurring costs?
- Sec. 30.309 What is the effect of accepting an assistance agreement?

Subpart D—How does EPA pay me?

- Sec. 30.400 How does EPA make payments?
- Sec. 30.405 Can I assign my payments to anyone else?
- Sec. 30.410 How does EPA determine allowable costs?
- Sec. 30.412 How are costs categorized?

Subpart E—How do I manage my award?

- Sec. 30.500 What records must I maintain?
- Sec. 30.501 How long must I keep these records?
- Sec. 30.502 To whom must my contractors and I show these records?
- Sec. 30.503 What type of quality assurance practices am I required to have?
- Sec. 30.508 What reports must I submit?
- Sec. 30.510 What type of financial management system must I maintain?
- Sec. 30.515 What restrictions on signs, surveys, and questionnaires must I observe?
- Sec. 30.518 What are the procedures of publishing scientific, informational, and educational documents?
- Sec. 30.520 When may I use my own employees ("force account")?
- Sec. 30.525 How should I treat program income?

Sec. 30.528 How do I treat interest earned on EPA funds?

- Sec. 30.530 May I purchase personal property using EPA assistance funds?
- Sec. 30.531 What property management standards must I follow for nonexpendable personal property purchased with an EPA award?
- Sec. 532 How do I dispose of personal property?
- Sec. 535 May I purchase real property with EPA awarded funds?
- Sec. 536 How do I manage Federally-owned property?
- Sec. 537 Are contractors required to comply with EPA property policies?
- Sec. 538 May I use General Services Administration (GSA) supplies and services?
- Sec. 540 Who will audit my project?

Subpart F—What Other Federal Requirements Must I Comply With?

- Sec. 600 What Federal laws and policies affect my award?
- Sec. 601 Are there restrictions on the use of assistance funds for advocacy purposes?
- Sec. 603 What additional Federal laws apply to EPA assisted construction projects?
- Sec. 610 What are my responsibilities for preventing and detecting fraud and other corrupt practices?
- Sec. 611 Can I hire a person or agency to solicit EPA assistance for me?
- Sec. 612 May an EPA employee act as my representative?
- Sec. 613 What is EPA's policy on conflict of interest?
- Sec. 615 May I employ a former EPA employee and still receive assistance?

Subpart G—Can an Assistance Agreement be Changed?

- Sec. 700 What changes to my assistance agreement require a formal amendment?
- Sec. 708 What changes can I make to my assistance agreement without a formal amendment?
- Sec. 710 Can I terminate a part or all of my assistance agreement?

Subpart H—How do I Close out my Project?

- Sec. 800 What records and reports must I keep after I complete my project?
- Sec. 802 Under what conditions will I owe money to EPA?

Subpart I—What Measures may EPA Take for Non-compliance?

- Sec. 900 What are the sanctions for non-compliance?
- Sec. 901 What are the consequences of a stop-work order?
- Sec. 902 What are the consequences of withholding payments?
- Sec. 903 What are the consequences of termination for cause?
- Sec. 904 What are the consequences of annulment?
- Sec. 905 May I appeal a termination, or annulment?
- Sec. 906 What are the consequences of suspension or debarment?

Subpart J—Can I get an Exception ("Deviation") From These Regulations?

- Sec. 1001 Will EPA grant any exceptions to these regulations?
- Sec. 1002 Who may request a deviation?
- Sec. 1003 What information must I include in a deviation request?
- Sec. 1004 Who approves or disapproves a deviation request?
- Sec. 1005 May I appeal a deviation decision?

Subpart K—What Policies Apply to Patents, Data, and Copyrights?

- Sec. 1100 What assistance agreements are subject to EPA patent rules?
- Sec. 1101 What Federal patent laws or policies govern my assistance agreement?
- Sec. 1102 What are my invention rights and my reporting requirements if my award is other than an award under section 6014 of RCRA?
- Sec. 1103 What are my invention rights and obligations if I am a profitmaking firm with an award under section 6014 of RCRA?
- Sec. 1104 Can I get a waiver from section 6081(c) of RCRA?
- Sec. 1106 Do the patent rules apply to subagreements?
- Sec. 1108 Does EPA require any type of licensing of background patents that I own?
- Sec. 1112 Are there any other patent clauses or conditions that apply to my award?
- Sec. 1130 What rights in data and copyrights does EPA acquire?

Subpart L—How are Disputes Between EPA Officials and me Resolved?

- Sec. 1200 What happens if an EPA official and I disagree about an assistance agreement requirement?
- Sec. 1205 If I file a request for review, with whom must I file?
- Sec. 1210 What must I include in my request for review or reconsideration?
- Sec. 1215 What are my rights after I file a request for review or reconsideration?
- Sec. 1220 If the Assistant Administrator confirms the proposed decision of the Headquarters disputes decision official, may I seek further administrative review?
- Sec. 1225 If the Regional Administrator confirms the proposed decision of the Regional disputes decision official, may I seek further administrative review at EPA Headquarters?
- Sec. 1230—Will I be charged interest if I owe money to EPA?
- Sec. 1235 Are there any EPA decisions which may not be reviewed under this subpart?

Appendix A—EPA Programs.

Appendix B—Patents and Copyrights Clauses.

Appendix C—Rights in Data and Copyrights.
Appendix D—Part 30 Reporting Requirements.

Authority: 33 U.S.C. 1251 et seq.; 42 U.S.C. 7401 et seq.; 42 U.S.C. 6901 et seq.; 7 U.S.C. 300f et seq.; 7 U.S.C. 136 et seq.; 15 U.S.C. 2801 et seq.; 42 U.S.C. 9901 et seq.

Subpart A—What is the Purpose and Scope of This Regulation?**§ 30.100 What is the purpose of this regulation?**

(a) The U.S. Environmental Protection Agency (EPA) is responsible for protecting and enhancing the quality of the environment. To achieve these objectives, EPA may award assistance in the form of grants, cooperative agreements, or fellowships to support: (1) State and local pollution control programs; (2) research, demonstration, or training projects; and (3) other projects that advance EPA's mission.

This regulation tells how to apply for and manage an EPA project, describes EPA involvement in the process, and identifies recipients' responsibilities. Other EPA assistance regulations supplement these. They are found in 40 CFR Part 32 (Debarment), Part 33 (Procurement Under Assistance Agreements), Part 35 (State and Local Assistance), Part 40 (Research and Demonstration), Part 45 (Training) and Part 46 (Fellowships).

(c) This regulation incorporates the requirements of Office of Management and Budget (OMB) Circulars and EPA Orders.

(d) Recipients must provide the reporting information required in this part to be eligible for EPA assistance awards.

[Note.—The OMB clearances required by the Paperwork Reduction Act are identified in Appendix D to this part.]

§ 30.101 What is the scope of this regulation?

This regulation covers financial assistance awards made as grants or cooperative agreements under requirements of the Federal Grant and Cooperative Agreement Act (P.L. 95-224). It does not cover direct EPA contracts under which EPA acquires property or services for its use.

§ 30.102 What laws authorize EPA to issue this regulation?

Reorganization Plan Number 3 of 1970 and the following statutes authorize the Administrator of EPA to issue this regulation.

(a) The Clean Water Act, as amended (33 U.S.C. 1251 et seq.);

(b) The Clean Air Act, as amended (42 U.S.C. 7401 et seq.);

(c) The Solid Waste Disposal Act, as amended (42 U.S.C. 6901 et seq.);

(d) The Safe Drinking Water Act, as amended (42 U.S.C. 300f et seq.);

(e) The Federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. 136 et seq.);

(f) The Toxic Substances Control Act (15 U.S.C. 2601 et seq.); and

(g) The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. 9601 et seq.).

SUBPART B—WHAT DEFINITIONS APPLY TO THIS REGULATION?**§ 30.200 What definitions apply to this regulation?**

"Allowable costs." Those project costs that are: eligible, reasonable, necessary, and allocable to the project; permitted by the appropriate Federal cost principles, and approved by EPA in the assistance agreement.

"Applicant." Any entity that files an application or unsolicited proposal for EPA financial assistance under this subchapter.

"Assistance agreement." The legal instrument EPA uses to transfer money, property, services, or anything of value to a recipient to accomplish a public purpose. It is either a grant or a cooperative agreement and will specify: budget and project periods; the Federal share of eligible project costs; a description of the work to be accomplished; and any special conditions.

"Award official." The EPA official with the authority to execute assistance agreements and to take other actions authorized by this subchapter and by EPA Orders.

"Budget period." The length of time EPA specifies in an assistance agreement during which the recipient may expend or obligate Federal funds.

"Consolidated assistance." An assistance agreement awarded under more than one EPA program authority or funded together with one or more other Federal agencies. Applicants for consolidated assistance submit only one application.

"Continuation award." An assistance agreement after the initial award, for a project which has more than one budget period in its approved project period (see § 30.306).

"Contractor." Any party to whom a recipient awards a subagreement.

"Cooperative agreement." An assistance agreement in which substantial EPA involvement is anticipated during the performance of the project (does not include fellowships).

"Cost sharing." The portion of allowable project costs that a recipient contributes toward completing its project (i.e., non-Federal share, matching share).

"Environmentally related measurements." Any data collection activity or investigation involving the

assessment of chemical, physical, or biological factors in the environment which affect human health or the quality of life. The following are examples of environmentally related measurements:

(a) A determination of pollutant concentrations from sources or in the ambient environment, including studies of pollutant transport and fate; (b) A determination of the effects of pollutants on human health and on the environment; (c) A determination of the risk/benefit of pollutants in the environment; (d) A determination of the quality of environmental data used in economic studies; and (e) A determination of the environmental impact of cultural and natural processes.

"Expendable personal property." All tangible personal property other than nonexpendable personal property.

"Force account work." The use of the recipient's own employees or equipment for construction, construction-related activities (including A & E services), or for repair or improvement to a facility.

"Foreign grants." An EPA award of assistance when all or part of the project is performed in a foreign country by (a) a U.S. recipient, (b) a foreign recipient, or (c) an international organization.

"Formal amendment." A written modification of an assistance agreement signed by both the authorized representative of the recipient and the award official.

"Grant agreement." An assistance agreement that does not substantially involve EPA in the project and where the recipient has the authority and capability to complete all elements of the program (does not include fellowships).

"In-kind contribution." The value of a non-cash contribution to meet a recipient's cost sharing requirements. An in-kind contribution may consist of charges for real property and equipment or the value of goods and services directly benefiting the EPA funded project.

"Nonexpendable personal property." Personal property with a useful life of at least two years and an acquisition cost of \$500 or more.

"Personal property." Property other than real property. It may be tangible (having physical existence), such as equipment and supplies, or intangible (having no physical existence), such as patents, inventions, and copyrights.

"Program income." Gross income the recipient earns during its project period from charges for the project. This may include income from service fees, sale of commodities, trade-in allowances, or usage or rental fees. Fees from royalties

are program income only if the assistance agreement so states. Revenue generated under the governing powers of a State or local government which could have been generated without an award is not considered program income. Such revenues include fines or penalties levied under judicial or penal power and used as a means to enforce laws. (Revenue from wastewater treatment construction grant projects under Title II of the Clean Water Act, as amended, is not program income. It must be used for operation and maintenance costs of the recipient's wastewater facilities.)

"Project." The activities or tasks EPA identifies in the assistance agreement.

"Project costs." All costs the recipient incurs in carrying out the project. EPA considers all allowable project costs to include the Federal share.

"Project officer." The EPA official designated in the assistance agreement as EPA's program contact with the recipient. Project officers are responsible for monitoring the project.

"Project period." The length of time EPA specifies in the assistance agreement for completion of all project work. It may be composed of more than one budget period.

"Quality assurance narrative statement." A description of how precision, accuracy, representativeness, completeness, and compatibility will be assessed, and which is sufficiently detailed to allow an unambiguous determination of the quality assurance practices to be followed throughout a research project.

"Quality assurance program plan." A formal document which describes an orderly assembly of management policies, objectives, principles, organizational responsibilities, and procedures by which an agency or laboratory specifies how it intends to:

- (a) Produce data of documented quality, and
- (b) Provide for the preparation of quality assurance project plans and standard operating procedures.

"Quality assurance project plan." An organization's written procedures which delineate how it produces quality data for a specific project or measurement method.

"Real property." Land, including land improvements, and structures and appurtenances, excluding movable machinery and equipment.

"Recipient." Any entity which has been awarded and accepted an EPA assistance agreement.

"Standard operating procedure." A document which describes in detail an operation, analysis, or action which is commonly accepted as the preferred

method for performing certain routine or repetitive tasks.

"Subagreement." A written agreement between an EPA recipient and another party (other than another public agency) and any lower tier agreement for services, supplies, or construction necessary to complete the project. Subagreements include contracts and subcontracts for personal and professional services, agreements with consultants, and purchase orders.

"Violating facility." Any facility that is owned, leased, or supervised by an applicant, recipient, contractor, or subcontractor that EPA lists under 40 CFR Part 15 as not in compliance with Federal, State, or local requirements under the Clean Air Act or Clean Water Act. A facility includes any building, plant, installation, structure, mine, vessel, or other floating craft.

"Unsolicited proposal." An informal written offer to perform EPA funded work for which EPA did not publish a solicitation.

Subpart C—How Do I Apply For and Receive Assistance?

§ 30.300 What activities does EPA fund?

EPA awards assistance to support various activities that protect the environment and reduce or control pollution. EPA groups these activities into the following types of assistance programs:

- (a) State and local pollution control;
- (b) Construction of wastewater treatment works;
- (c) Research;
- (d) Demonstration;
- (e) Training;
- (f) Fellowships;
- (g) Special investigations, surveys or studies; and
- (h) Consolidated assistance.

§ 30.301 To whom does EPA award assistance?

(a) EPA awards assistance only to applicants which are eligible under applicable statutes and regulations and which have the ability to meet the following criteria:

- (1) Financial resources, technical qualifications, experience, organization, and facilities adequate to carry out the project, or a demonstrated ability to obtain these;
- (2) Resources to meet the project completion schedule contained in the assistance agreement;
- (3) A satisfactory performance record for completion of projects and subagreements;
- (4) Accounting and auditing procedures adequate to control property,

funds, and assets, as required in Subpart E of this part;

(5) Procurement standards that comply with Part 33 of this Subchapter;

(6) Property management systems for acquiring, maintaining, safeguarding, and disposing of property, as required in Subpart E of this part; and

(7) Demonstrated compliance or willingness to comply with the civil rights, equal employment opportunity, labor law, and other statutory requirements under Subpart F of this part.

(b) EPA considers your submission of an assistance application as your assurance that you can and will meet these standards. EPA may conduct a preaward audit or other review to determine your capabilities.

(c) EPA must notify you in writing if it finds you unable to meet these standards. The written notice will state the reasons for the finding. You may appeal EPA's findings under the disputes procedures in Subpart L.

(d) Individuals, agencies, or organizations voluntarily excluded, suspended, or debarred under 40 CFR Part 32 are ineligible to receive assistance.

§ 30.302 How do I apply for assistance?

(a) You must submit a standard application to apply for EPA assistance.

(b) Before you file an application to perform unsolicited work, you may submit an unsolicited proposal. EPA will apprise you of your proposal's potential for funding.

(c) You can get program information and an application kit with instructions from the EPA grants office which is responsible for administering that program. Regional EPA grants offices provide and review applications and award assistance for State and local pollution control projects. State water pollution control agencies provide and review applications for grants for the construction of wastewater treatment facilities. EPA Headquarters provides and reviews applications for and awards research, demonstration, fellowships, and training assistance.

(d)(1) For assistance agreements awarded for Fiscal Year 1984, you must develop and implement a quality assurance program acceptable to the award official if your proposal involves any environmental related measurements or data generation. Except as noted in paragraphs (d) (2) and (3) of this section, your application for financial assistance must include a quality assurance plan which meets the requirements in § 30.503. If you already have an EPA approved quality

assurance plan, you need only reference that plan in your application, provided the plan covers the project in your application.

(2) The recipient of an assistance award under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, must submit a schedule for developing a quality assurance project plan within 30 days of receiving an assistance award. Recipients may not begin field or laboratory work until the award official approves the recipient's assurance project plan.

(3) The recipient of a wastewater treatment construction grant awarded under Title II of the Clean Water Act must comply with § 30.503 only if a grant condition specifically requires the recipient to gather environmental related data. If a quality assurance program is required, recipients must submit a schedule for developing a quality assurance project plan within 30 days of assistance award. Recipients must not begin field or laboratory work until the award official approves the recipient's quality assurance project plan.

§ 30.303 What steps must I take when filing a standard application?

(a) Before you file an application, you must complete the forms according to the instructions. At least one copy of the completed application must have an original signature of the person authorized to obligate you or your organization to the terms and conditions of EPA's regulations and assistance agreement.

(b) You must:

(1) Comply with your State's intergovernmental review process, if it established one under Executive Order 12372. See 40 CFR Part 29 (48 FR 28288, June 24, 1983).

(2) Comply with the areawide review requirements of Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, as amended (42 U.S.C. 3334) if your project will be located in a metropolitan area. EPA programs that are subject to areawide review are listed in 48 FR 29304, June 24, 1983, and marked with an asterisk (*).

§ 30.304 Is the information I submit to EPA confidential?

(a) Generally, the information is not confidential. When EPA receives your assistance application or unsolicited proposal the information you submit becomes part of the Agency's records. As such, it is subject to EPA's disclosure of information policy (40 CFR Part 2) which is based on the provisions of the Freedom of Information Act (5 U.S.C.

552) and on the provision for patents and rights in data and copyrights under Subpart K of this part.

(b) If you submit data, documents, or parts of documents which you consider to be confidential, you should clearly identify them with the words "trade secret," "proprietary," or "business confidential." For further instructions on assertion of confidentiality claims, see 40 CFR Part 2, Subpart B.

§ 30.306 How do I find out if EPA approved or disapproved my application?

(a) If EPA approves your application, the award official will prepare and sign an assistance agreement and send it to you for signature. Your authorized representative must either sign and return the agreement to EPA within three calendar weeks after you receive it or request EPA to extend the time for acceptance. If you do not sign or request an extension within the three week period, the assistance agreement is null and void.

(b) If EPA disapproves your application, it will promptly notify you in writing. You may appeal EPA's disapproval under Subpart L.

(c) Sometimes, EPA will defer your application. You will be notified in writing of this decision.

§ 30.308 How long will I have to complete my project?

(a) Your assistance agreement will state the length of your approved budget period(s) and project period. Subject to statutory provisions, your approved project period may include more than one budget period. In this case, you must submit a continuation application to EPA to request funding for each budget period after the initial one. EPA makes continuation awards subject to availability of funds and Agency priorities. (Assistance awards under 40 CFR Part 35, Subpart A, do not have project periods, but recipients of such award may receive continuation awards.)

(b) The continuation application must include:

(1) A detailed progress report for the current budget period;

(2) A preliminary financial statement for the current budget period that includes estimates of the amount you expect to spend by the end of the current budget period and the amount of any uncommitted funds which you propose to carry over beyond the term of the current budget period;

(3) A budget for the new budget period;

(4) A detailed work plan revised to account for your actual

accomplishments during the current budget period;

(5) An annual invention report; and

(6) Any other reports that the assistance agreement may require.

(c) If approved by the award official, you may carry over unexpended prior year funds: (1) In lieu of new funds; (2) to complete work started in prior years; or (3) to supplement the new award. You must meet all program and cost sharing requirements in each budget period to carry over funds.

(d) If EPA executes a continuation agreement, EPA will reimburse you for allowable costs you incur between the end of a budget period and date of award for the next budget period provided you submit a continuation application before the expiration of the prior budget period.

§ 30.307 How much must I contribute to the funding of my project?

(a) The amount of cost sharing you must contribute depends upon the statutory and regulatory cost sharing provisions that apply to your specific assistance project (see 40 CFR Parts 38 and 40). You must contribute at least a 5 percent share of the total allowable project costs for each budget period unless:

(1) A lesser amount is specified in the respective statute or regulation applicable to your project; or

(2) The assistance agreement is for a remedial planning action under the Comprehensive Environmental Response, Compensation and Liability Act of 1980.

(b) You may satisfy the requirement for cost sharing with cash or, when not prohibited by statute or regulations, with in-kind contributions. Your contribution may not be paid with Federal funds or with property or services received under another assistance agreement, unless authorized by statute. Additionally, your contributions must be:

(1) Negotiated before and specified in your assistance agreement;

(2) Verifiable from your records;

(3) Used exclusively for a single project; and

(4) Properly allocable to and allowable under the project.

(c) All project expenditures by the recipient shall be deemed to include the Federal share.

§ 30.309 When may I begin incurring costs?

Except as permitted in § 30.306(d) or other EPA regulations, the award official and you must sign the EPA assistance agreement before you incur costs.

§ 30.399 What is the effect of accepting an assistance agreement?

(a) When the award official signs the assistance agreement, EPA will obligate Federal funds for the amount stated in your assistance agreement for the purposes of the award. EPA is not obligated to provide Federal funds for any costs incurred by you in excess of the Federal share of your approved budget. (See Subpart G of this part.)

(b) The award of an assistance agreement constitutes a public trust. By signing and accepting an assistance agreement, you become responsible for complying with all terms and conditions of your assistance agreement, including any special conditions necessary to assure compliance with EPA policies and objectives, this subchapter, and any other applicable statute or regulation. You must efficiently and effectively manage your project, successfully complete the project according to the schedule, and meet all monitoring and reporting requirements. You may not delegate or transfer this responsibility.

Subpart D—How Does EPA Pay Me?**§ 30.400 How does EPA make payments?**

(a) EPA will promptly pay you for allowable costs you incur in accordance with EPA regulations and your assistance agreement. If at any time, EPA determines you received payment for unallowable cost or received an over-payment, you are required to reimburse EPA. (See § 30.802.)

(b) Your assistance agreement will specify one of the following ways for EPA to pay you. You will receive the appropriate forms and instructions with your assistance agreement.

(1) *By letter of credit.* EPA will pay you by the letter of credit method, if you meet the Treasury Department's criteria contained in Treasury Circular No. 1075, as revised. You must establish a separate bank account when payments under a letter of credit are made on a "check-paid" basis.

(2) *By advance.* If you do not qualify for a letter of credit, EPA may pay you by the advance payment method. You must negotiate the amount of your initial advance with the award official. The negotiated amount should not exceed the cash you will need for the first three months of operation. You must request the initial advance on Standard Form 270 (SF 270, "Request for Advance or Reimbursement") which will be included in your award package. EPA will issue a check for the first three months or one check each month (at EPA's option) to pay the advance. After your initial advance, you must submit an SF 270 at least quarterly, but not more often than

monthly, indicating the amount of your expenditures to date and your request for funds for the coming period.

(3) *By reimbursement.* If you do not meet letter of credit requirements or receive advance payments, EPA will pay you by reimbursement. Also, EPA generally will pay you under the reimbursement method if you are receiving assistance under EPA's wastewater treatment construction grants program (see 40 CFR Part 35, Subpart I). When EPA pays by this method, you will be reimbursed for costs which you have incurred and are currently and legally obligated to pay.

§ 30.405 Can I assign my payment to anyone else?

Except as provided for in 40 CFR 35.2025(b)(2) of EPA's wastewater treatment construction grants regulation, you cannot assign your right to receive payments under your assistance agreement. EPA will make payments only to the payee identified in the assistance agreement.

§ 30.410 How does EPA determine allowable costs?

To be allowable, costs must meet applicable statutory provisions and Federal cost principles. EPA uses the following cost principles in determining allowable costs for all EPA assistance agreements and subagreements under them, except as otherwise provided by statute or this subchapter. Regardless of whether the organization is the recipient of the award or is performing services for the recipient, the nature of the organization is the sole criterion for determining applicable cost principles.

(a) *State and local governments* must use OMB Circular A-87 to determine allowable costs;

(b) *Educational institutions* must use: (1) OMB Circular A-21 cost principles for research and development, training, and other educational services under grants, cooperative agreements, and subagreements, and (2) OMB Circular A-86 which provides principles for coordinating the establishment of indirect cost rates and the auditing of grants, cooperative agreements, and subagreements;

(c) *Other nonprofit institutions* must use OMB Circular A-122;

(d) *Profitmaking organizations* must use Federal procurement regulations (41 CFR Ch. 1, Subpart 1-15.2 and, if appropriate, 1-15.4); and

(e) *Hospitals* must use 45 CFR Part 74, Appendix E.

§ 30.412 How are costs categorized?

(a) Costs are categorized as being either a direct cost if they support a

specific project only or as an indirect cost as described in the applicable cost principles (see § 30.410). To receive payment for indirect costs, you must have negotiated an indirect cost rate with your cognizant Federal Agency and your assistance agreement must provide for the use of that rate.

(b) You may request a special indirect cost rate, if (1) your project is conducted at an off-site location; or (2) your project is a large, one-time project and its costs would distort the normal direct cost base used in computing the indirect cost rate.

Subpart E—How Do I Manage My Award?**§ 30.500 What records must I maintain?**

(a) You must maintain official records for each assistance award you receive and identify them with EPA assistance identification numbers. These records must contain the following information:

(1) Amount received and expended for the project, including all Federal and cost sharing funds;

(2) Program income;

(3) Total cost of the project (both direct and indirect costs);

(4) Property purchased under the award or used as part of your in-kind contribution;

(5) Time records and other supporting data; and

(6) Documentation of compliance with applicable statutes and regulations.

(b) Your contractor must maintain books, documents, papers, and records pertinent to the project.

§ 30.501 How long must I keep these records?

(a) Generally you and your contractor must keep all records for three years from the end of the project. Except for real property and nonexpendable personal property records, the beginning date of the three year period depends on the type of project you are conducting, as follows:

(1) For research, demonstration, and training programs, the submission date of a final Financial Status Report (SF-200);

(2) For State and local assistance programs, the submission date of the final Financial Status Report (SF-300); or

(3) For construction awards, the approval date of EPA's final payment for the project.

(b) You must keep your records on real property and nonexpendable personal property for three years from the date of final disposition.

(c) If EPA terminates your award, you must keep all records for three years from the termination date, except as provided in paragraph (b) of this section.

(d) If litigation, a claim, an appeal, or an audit is begun before the end of the three year period, you must keep all records until the three years have passed or until the litigation, appeal, claim, or audit is completed and resolved, whichever is longer.

§ 30.502 To whom must my contractor and I show these records?

You and your contractor must allow the project officer and any authorized representative of EPA, including the Office of Inspector General, the Comptroller General of the United States, the Department of Labor, or a representative of delegated States under the wastewater treatment construction grants program, to inspect, copy, and audit records pertinent to the project. Access to records is not limited to the required retention periods. You and your contractor must allow access to records at any reasonable time for as long as the records are kept.

§ 30.503 What type of quality assurance practices am I required to have?

(a) If your project involves environmentally related measurements or data generation, you must develop and implement quality assurance practices consisting of policies, procedures, specifications, standards, and documentation which will produce data of quality adequate to meet project objectives and will minimize loss of data due to out-of-control conditions or malfunctions.

(b) Your quality assurance practices must assure the reliability of monitoring and measurement data and integrate quality planning, quality assessment, and quality improvement efforts.

(c) As required in § 30.302(d), you must develop and implement a quality assurance program which is acceptable to the award official in order to receive an EPA assistance award. All applications for financial assistance must include a document as specified in paragraphs (d), (e), or (f) of this section.

(d) If your application is for research financial assistance it must include a quality assurance narrative statement which either addresses the following areas or provides justification why any of these areas do not apply to the proposal:

(1) The intended use of the data and the associated acceptance criteria for data quality (precision, accuracy, representativeness, completeness, comparability);

(2) Project requirements for precision, accuracy, representativeness, completeness, comparability, and how these will be determined;

(3) Procedures for selection of samples or sampling sites and collection or preparation of samples;

(4) Procedures for sample handling, identification, preservation, transportation, and storage;

(5) Description of measurement methods or test procedures with a statement of performance characteristics if methods are non-standard;

(6) Standard quality assurance/quality control procedures (e.g., American Society for Testing Materials, American Public Health Association standard procedures) to be followed. Non-standard procedures must be documented; and

(7) Data reduction and reporting procedures, including description of statistical analyses to be used.

(e) If you are a State or local government (except for recipients of wastewater construction grants under Title II of the Clean Water Act, as amended, or assistance awards under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980), you must have a quality assurance program plan acceptable to the award official. (For assistance in preparing a program plan, see "Guidelines and Specifications for Preparing Quality Assurance Program Plans" QAMS-004/80. This document (EPA-000/8-83-024; NTIS PB 83-219667) may be obtained from the National Technical Information Service, 5885 Port Royal Road, Springfield, Virginia 22161.) The program plan must address the following areas:

- (1) Name of principal investigator(s) and quality assurance officer;
- (2) Background, purpose, and scope of the quality assurance plan;
- (3) Quality assurance policy statement;
- (4) Quality assurance management plan;
- (5) Personnel qualifications;
- (6) Facilities, equipment, and services;
- (7) Data generation and general quality assurance requirements;
- (8) Data processing, e.g., reduction, validation, reporting;
- (9) Data quality assessment;
- (10) Corrective action for out-of-control situations;
- (11) Development of individual quality assurance project plans and standard operating procedures, if required in the program plan; and
- (12) Implementation requirements and schedule.

(f) All other applicants for financial assistance must submit with their application (see § 30.302(d)) a quality assurance project plan acceptable to the award official. (For assistance in preparing a quality assurance project plan see "Interim Guidelines and Specifications for Preparing Quality Assurance Projects Plans" QAMS-006/80. This document (EPA-000/4-83-004; NTIS PB 83-170514) may be obtained from the National Technical Information Service, 5885 Port Royal Road, Springfield, Virginia 22161.) The project plan must address the following items:

- (1) Title of project and name of principal investigator(s);
- (2) Table of contents of project plan;
- (3) Project description;
- (4) Project organization and responsibilities;
- (5) Quality assurance objectives and criteria for determining precision, accuracy, completeness, representativeness, and comparability of data;
- (6) Sampling procedures;
- (7) Sample custody;
- (8) Calibration procedures and frequency and traceability of standards;
- (9) Analytical procedures;
- (10) Data reduction, validation, and reporting;
- (11) Internal quality control checks;
- (12) Performance and system audits;
- (13) Preventive maintenance;
- (14) Specific standard operating procedures used to assess data precision, accuracy, representativeness, and comparability;
- (15) Corrective action for out-of-control situations; and
- (16) Quality assurance reporting procedures.

(g) Recipients of an assistance award under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund), must comply with the quality assurance project plan requirements in paragraph (f) in this section.

(h) If required (see § 30.302(d)(3)), a recipient of a wastewater treatment construction grant under Title II of the Clean Water Act, as amended, must comply with the quality assurance project plan requirements in paragraph (f) in this section.

§ 30.505 What reports must I submit?

(a) *Interim and final progress reports.* You must submit interim and final progress reports if the assistance agreement or EPA regulations require them. See 40 CFR Parts 36, 40, and 46 for specific requirements. EPA or its authorized representatives may inspect

your project at any reasonable time to review its progress.

(b) *Financial reports.* (1) You must submit a Financial Status Report (SF 269) within 90 days after each budget period within 90 days after the end of your project completion or termination. If either the Financial Status Report (FSR) you submit after the budget period or the FSR you submit after your project is completed or terminated includes unliquidated obligations, you must submit a final FSR immediately after those obligations are liquidated. If you do not submit a final FSR within a reasonable time after the 90 day period, the award official may disallow the unliquidated obligations.

(2) Under the wastewater treatment construction grants program, your final "Outlay Report and Request for Reimbursement for Construction Programs" (SF 271) will serve as the financial report.

(3) Recipients of fellowship assistance agreements do not have to submit FSR's.

(c) *Invention reports.* You must report all inventions (see Subpart K for details). You must submit a final invention statement to the award official within 90 days after completion of a project. If you have a continuation award, you must submit an annual invention statement with your continuation application. Also, if you change your project manager on a research project, you must submit an invention report at that time to the award official.

(d) *Report on Federally-Owned Property.* You must submit an annual inventory of all Federally-owned property used on your project. At the end of the project period, or when you no longer need the property, you must submit a final inventory which states the present condition of each item and requests disposition instructions.

§ 30.510 What type of financial management system must I maintain?

You must maintain a financial management system that consistently applies accepted accounting principles and practices and at least includes:

(a) An accurate, current, and complete accounting of all financial transactions for your project;

(b) Records, together with supporting documents showing the source and application of all project funds, including assistance awards and authorizations, obligations, unobligated balances assets, liabilities, outlays, and income;

(c) Control over, and accountability for, all project funds, property, and other assets, and an assurance that you used

these solely for their authorized purpose;

(d) A comparison of actual costs versus budgeted object class amounts;

(e) Procedures to ensure prompt disbursement of Federal funds after you receive them;

(f) Procedures for determining allowable, allocable, and reasonable costs;

(g) Audits at least every other year on an organization-wide basis (see § 30.540); and

(h) A systematic method to resolve audit findings and recommendations.

§ 30.515 What restrictions on signs, surveys, and questionnaires must I observe?

(a) *Signs.* You must place a visible project identification sign at a construction site. The sign must give project information and credit EPA for funding. Your project officer will give you specifications for sign design, content, and placement. The cost of making and erecting the sign is an allowable cost.

(b) *Surveys and questionnaires.* If your survey or questionnaire states that information is being collected for the Federal Government, you must request written approval from EPA to use Agency funds to cover the costs of data collection. To assure compliance with the Paperwork Reduction Act of 1980, Pub. L. 96-511 (44 U.S.C. 3501 et seq.), the project officer can grant approval only with the agreement of the EPA Headquarters reports management officer. You must also receive the project officer's approval to list EPA as a recipient of the survey information.

§ 30.518 What are the procedures for publishing scientific, informational, and educational documents?

(a) EPA encourages publication of the results of its assistance agreements.

(b) You must comply with EPA's peer and administrative review process if you intend to release to the public informational materials, reports, and other products produced under an EPA assistance agreement.

(1) Except for articles published under paragraph (d) of this section, you must submit three copies of the documents to your project officer for EPA review. EPA will evaluate the documents and will provide you with written, suggested changes, if any.

(2) You should make every effort to accommodate suggestions arising from the EPA review process while preparing a revised draft. You should alert EPA reviewers to suggestions you cannot accommodate and to changes initiated by you in the revised draft.

(3) If an agreement is reached that the material is appropriate for release as an EPA publication, the following statement must be included in the document:

The information in this document has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement (number) to (recipient). It has been subjected to the Agency's peer and administrative review and has been approved for publication as an EPA document. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

(c) If agreement cannot be reached that the material is appropriate for release as an EPA publication, you may independently publish and distribute the document for your own use and at your own expense provided you include the following statement in the document:

Although the information in this document has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement (number) to (recipient), it may not necessarily reflect the views of the Agency and no official endorsement should be inferred.

(d) EPA also encourages independent publication of reports in referred journals at any time. You must submit a copy of the article to your project officer when you send it for publication. Following publication, three copies of the article should be submitted to the project officer. The article must include the following statement:

Although the research described in this article has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement (number) to (recipient), it has not been subjected to the Agency's peer and administrative review and therefore may not necessarily reflect the views of the Agency and no official endorsement should be inferred.

(e) Documents that are not to be released to the public as EPA publications but are part of a recipient's regular pollution control activities are not subject to the EPA peer and administrative review process, e.g., State pollution control agency-published newsletters and operation and maintenance manuals under the wastewater treatment construction grants program. However, EPA encourages you to establish a similar review process before publishing any documents at your own expense. You may publish such documents only if you include the following statement:

This project has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement (number) to (recipient). The contents of this document do not necessarily

reflect the views and policies of the Environmental Protection Agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

§ 30.520 When may I use my own employees ("force account")?

If costs will exceed \$25,000, you must get prior written authorization from your project officer to use your own employees or equipment for construction, construction-related activities, or for repairs or improvements to a facility ("force account"). You must demonstrate that (a) your employees can competently and more economically complete the work than contractors or (b) an emergency circumstance makes the use of "force account" necessary.

§ 30.525 How should I treat program income?

(a) You may use program income to fund additional eligible project activities, or if approved by the award official, to meet your non-Federal share of project costs.

(b) If you do not use the program income to fund additional eligible activities or you are not permitted to use program income to meet your non-Federal share of project costs, EPA will subtract the income from the total allowable project cost to determine the net cost on which the Federal share will be based.

(c) Unless the assistance agreement provides otherwise, you do not owe EPA any of the royalties you earn on copyrights or patents produced under the assistance agreement. (See Subpart K of this part for EPA's rights regarding copyrights and patents.)

(d) You must keep complete records showing all receipts and expenditures related to program income.

§ 30.526 How do I treat interest earned on EPA funds?

If you earn interest on an EPA advance, you must return it to EPA unless you are:

(a) A State, or State agency as defined under section 203 of the Intergovernmental Cooperation Act of 1968, (42 U.S.C. 4213), or

(b) A tribal organization as defined under sections 102, 103, or 104 of the Indian Self Determination Act (25 U.S.C. 450f, 450g, and 450h).

§ 30.530 May I purchase personal property using EPA assistance funds?

(a) *Nonprofit institutions of higher education and nonprofit organizations whose primary purpose is the conduct of scientific research.* You may purchase personal property for the conduct of

basic or applied research if authorized to do so in your assistance agreement. Before you purchase property or equipment with a unit acquisition cost of \$10,000 or more, you must receive the award official's approval. Title will be vested in you but may be limited as provided in paragraph (a)(1) of this section.

(1) If EPA determines that it is in the best interest of the Agency, EPA may reserve the right to transfer the title for personal property having a unit acquisition cost of \$1,000 or more to the Federal Government or a third party, within 120 days after project completion. EPA must identify such property in the assistance agreement, or otherwise notify you in writing that EPA reserves the right to transfer the title.

(2) If EPA does not reserve the right to transfer the title, you have no other obligations or accountability to EPA.

(b) *Other recipients.* You may purchase personal property with EPA assistance funds if authorized to do so in your assistance agreement. Before you purchase personal property with a unit cost of \$10,000 or more, you must receive the award official's approval. Title will be vested in you, subject to the following conditions:

(1) You must use the property in the EPA assisted project for which it was acquired as long as needed, whether or not the project continues to be supported with EPA funds;

(2) You must assure that EPA's interest (the percentage of EPA's participation in the total award) is adequately reflected and protected in compliance with all recordation or registration requirements of the Uniform Commercial Code or other applicable local laws on all nonexpendable personal property with a unit acquisition cost of \$10,000 or more;

(3) You must follow the property management standards in § 30.531;

(4) You must follow the disposition requirements in § 30.532; and

(5) EPA reserves the right to transfer the title for nonexpendable personal property having a unit acquisition cost of \$1,000 or more to the Federal Government or a third party, within 120 days after project completion. EPA must identify such property in the assistance agreement.

§ 30.531 What property management standards must I follow for nonexpendable personal property purchased with an EPA award?

Nonprofit institutions of higher education and nonprofit organizations whose primary purpose is to conduct scientific research are exempt from the following standards. All other recipients

must comply with the following property management standards. Recipients may use their own property management system if the system meets the following minimum standards.

(a) Maintain accurate records reflecting:

(1) A description of the property;

(2) Manufacturer's serial number, model number, or other identification number;

(3) Source of the property, including assistance identification number;

(4) Whether title is vested in the recipient or the Federal Government;

(5) Unit acquisition date and cost;

(6) The percentage of the Federal share of the cost;

(7) Location, use, and condition of property and the date the information was recorded; and

(8) Ultimate disposition data, including sales price or the method used to determine the price, or the method used to determine current fair market value where a recipient compensates EPA for its share under § 30.532 of this part.

(b) Conduct a physical inventory of property, and reconcile the results with the property records, at least once every two years. Your inventory must verify the current use and continued need for the property.

(c) Maintain a control system to prevent loss, damage, or theft. (You must thoroughly investigate and document any loss, damage, or theft of nonexpendable personal property.)

(d) Maintain adequate maintenance procedures that ensure the property is in good condition and that instruments used for precision measurements are periodically calibrated.

(e) Maintain proper sales procedures which provide for competition resulting in the highest possible return.

(f) Maintain identification of Federally-owned property.

§ 30.532 How do I dispose of personal property?

When personal property is no longer needed for the original project, you may use it on other EPA projects. If you do not have other EPA projects, you may use it on other Federal projects. If you wish to use the property on other than Federally sponsored activities, you must comply with the following requirements:

(a) Generally, if you purchased nonexpendable personal property for less than \$1,000 per unit, you may either keep it or sell it and keep the proceeds. However, if you are a profitmaking organization, you may keep nonexpendable personal property only if you reimburse EPA for its proportionate

share of the current fair market value of the property.

(b) If EPA does not reserve the right to transfer title under § 30.530(a)(1), EPA is still entitled to compensation on nonexpendable personal property you purchased for more than \$1,000 (see § 30.530(b)(5)). You may keep it, provided you compensate EPA for its proportionate share of the current fair market value. If you do not want to keep the property, your project officer will give you instructions for disposition.

(c) If, at the end of your project, you have expendable personal property with a total aggregate fair market value exceeding \$1,000, you may use the property on other Federally sponsored projects. If you do not use the property on other Federally sponsored projects you must keep it or sell it, but in either case you must compensate EPA for its proportionate share of the current fair market value.

§ 30.535 May I purchase real property with EPA awarded funds?

You may purchase real property subject to the following conditions:

(a) The award official must approve the purchase.

(b) Except as provided in paragraph (a) of this section, you must use the real property only for the purpose for which it was purchased under the assistance award.

(c) You comply with the requirements in 40 CFR Part 4.

(d) You must also comply with 40 CFR Part 35, Subpart I, if your award is a wastewater treatment construction grant.

(e) You must assure that EPA's interest is adequately reflected and protected in compliance with all recordation or registration requirements of applicable local laws on real property.

(f) When it is no longer needed for the original project:

(1) You must get approval from EPA to use the property for other Federally supported projects or programs; or

(2) You must contact EPA for instructions on how to dispose of the property. EPA may:

(i) Permit you to retain title to the property provided you compensate EPA for its share or

(ii) Direct you to sell the property and to compensate EPA for its share, less your expenses; or

(iii) Direct you to transfer the title of the property to the Federal Government and then compensate you based on your percentage of participation in the original cost of the project, which will be applied to the current fair market value of the property.

§ 30.536 How do I manage Federally-owned property?

You must negotiate the use of Federally-owned property with the award official and comply with your lease agreement and § 30.505(d). You must inform the project officer of the availability of the property when the property is no longer needed for the assistance project or when you have completed the project. EPA will give you instructions on where to return the property.

§ 30.537 Are contractors required to comply with EPA property policies?

Generally, contractors are not required to comply with EPA property policies. However, if your contractors acquired personal property with EPA funds, and the subagreement states that ownership vests in you or EPA, the contractor must comply with EPA property policies.

§ 30.538 May I use General Services Administration (GSA) supplies and services?

You may not use GSA sources of supplies and services, or excess Government property. Excess Government property consists of property under the control of any Federal agency that is not required for its needs.

§ 30.540 Who will audit my project?

(a) *General.* EPA may perform pre-award or interim audits, as well as a final audit of your project. If EPA audits your project, EPA will rely to the extent practicable on your audits conducted under § 30.510(g) (if done in accordance with applicable audit standards) instead of reauditing the same records.

(b) *State and local governments.* State and local governments must comply with the audit requirements in OMB Circular A-102, Attachment P and other appropriate documents. Under Attachment P, you must conduct an audit at least once every two years to evaluate the fiscal integrity of your financial transactions and reports and to determine compliance with the terms of your assistance agreement. You should conduct the audit on an organization-wide basis. You must submit a copy of the audit to your cognizant Federal agency. EPA will keep audit cognizance over subagreements under the wastewater treatment construction grants program.

(c) *Other recipients.* The award official may request a final audit after the submission of, or the due date of, the final Financial Status Report (see § 30.505(b)). Where your organization has a cognizant Federal audit agency, EPA will refer these audits to your

organization's cognizant Federal audit agency. Where OMB has not established a cognizant Federal audit agency, EPA staff may perform or arrange for the audit to be performed.

Subpart F—What Other Federal Requirements Must I Comply With?

§ 30.600 What Federal laws and policies affect my award?

You must comply with all applicable Federal laws.

(a) *National Environmental Policy Act.* You must comply with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) as amended and other related environmental laws and executive orders that require you to assess the environmental impact of your project. See 40 CFR Part 6 for specific requirements.

(b) *Flood Disaster Protection Act.* If your project involves construction or property acquisition in a special flood hazard area, you must comply with the Flood Disaster Protection Act of 1973 (Pub. L. 93-234, December 13, 1973). If your project is located in a community participating in the National Flood Insurance Program (42 U.S.C. 4001-4128), the Act requires you to purchase flood insurance as a condition of receiving EPA assistance. If the community is not participating in the National Flood Insurance Program and the special flood hazard area has been designated by the Federal Insurance Administration of the Federal Emergency Management Agency for at least one year, EPA will not award assistance for your project until the community enters the program and flood insurance is purchased. See 44 CFR Parts 59 through 79 for specific requirements.

(c) *Clean Air Act.* Section 306 of the Clean Air Act, (42 U.S.C. 7606), as amended, and Executive Order 11738 prohibit EPA from awarding assistance to you (with certain exceptions) if you intend to use any facility on EPA's List of Violating Facilities to complete work on your agreement. You must include a clause in all subagreements that requires the recipients of those subagreements that requires the recipients of those subagreements to comply with the requirements of 40 CFR Part 15 (see 40 CFR 33.1020).

(d) *Federal Water Pollution Control Act.* Section 508 of the Federal Water Pollution Control Act, (33 U.S.C. 1368), as amended, and Executive Order 11738 prohibit EPA from awarding assistance to you (with certain exceptions) if you intend to use any facility on EPA's List of Violating Facilities to complete work on your agreement. You must include a

clause in all subagreements to comply with the requirements of 40 CFR Part 15 (see 40 CFR 33.1020). Section 13 of the 1972 Amendments to the Act prohibits sex discrimination under any program or activity receiving assistance under the Act. See 40 CFR Part 12 for specific requirements.

(e) *Civil Rights Act.* You must comply with Sec. 602, Title VI of the Civil Rights Act of 1964, (42 U.S.C. 2000d), and related nondiscrimination laws and Executive Order 11246. These authorities prohibit you from excluding any person from participating in, denying them the benefits of, or discriminating against them on the basis of race, color, or national origin under any program or activity involving Federal financial assistance. See 40 CFR Parts 7, 8, and 12 for specific requirements.

(f) *Rehabilitation Act.* You must comply with Sec. 504 of the Rehabilitation Act of 1973, (29 U.S.C. 794), as amended, which prohibits discrimination on the basis of handicap in Federally assisted programs.

(g) *Age Discrimination Act.* You must comply with the provisions of the Age Discrimination Act of 1975, (42 U.S.C. 6101 et seq.), which prohibit discrimination on the basis of age in Federally assisted programs.

(h) *Title IX of the Education Amendments of 1972.* You must comply with Title IX of the Education Amendments of 1972, (20 U.S.C. 1681 et seq.) which prohibits sex discrimination in Federally assisted education programs.

(i) *Uniform Relocation Assistance and Real Property Acquisition Policies Act.* You must comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. 4601 et seq.), if your project involves acquiring an interest in real property and/or any displacement of persons, businesses, or farm operations. See 40 CFR Part 4 for specific requirements.

(j) *The Indian Self-Determination and Education Assistance Act.* You must comply with the Indian Self-Determination and Education Assistance Act of 1975 (P.L. 93-638). If your project will benefit Indians, the Act requires you to give Indians preference in training and employment opportunities and in the award of subagreements.

(k) *The Hatch Act.* If you are a State or local government recipient, you must ensure compliance with the Hatch Act, (5 U.S.C. 1501 et seq.), as amended. The Act requires State and local government employees to comply with the restrictions on political activities

imposed by the Act if their principal employment activities are funded wholly or in part by Federal assistance. See 5 CFR Part 151 for specific prohibitions and exemptions.

(l) *Safe Drinking Water Act.* Section 1424(e) of the Safe Drinking Water Act (42 U.S.C. 300h-3(e)), prohibits EPA from awarding assistance to you if EPA determines that your project may contaminate a sole source aquifer which will result in a significant hazard to public health. See CFR Part 140.

§ 30.601 Are there restrictions on the use of assistance funds for advocacy purposes?

You may not use assistance funds for:

(a) Lobbying or influencing legislation before Congress;

(b) Partisan or political advocacy purposes; or

(c) An activity whose objective could affect or influence the outcome of an EPA regulatory or adjudicatory proceeding.

§ 30.603 What additional Federal laws apply to EPA assisted construction projects?

If you receive EPA assistance for a project involving construction, you must ensure compliance with the following additional requirements:

(a) *The Davis-Bacon Act.* The Davis-Bacon Act (40 U.S.C. 276a et seq.) as amended, and implementing regulations of the Department of Labor under 29 CFR Part 5 require you to ensure that on construction subagreements in excess of \$2,000, your contractors and subcontractors pay wages to laborers and mechanics at least equal to the minimum wages specified by the Secretary of Labor if required in the program statute.

(b) *The Copeland Act.* The Copeland (Anti-Kickback) Act, and the regulations of the Department of Labor under 29 CFR Part 3 prohibit your contractors and subcontractors from inducing any person involved in your project to give up any part of the compensation to which that person is entitled under an employment contract.

(c) *The Contract Work Hours and Safety Standards Act.* The Contract Work Hours and Safety Standards Act (40 U.S.C. 327 et seq.) and the regulations of the Department of Labor under 29 CFR Part 5 require your contractors and subcontractors to pay wages to laborers and mechanics on the basis of an eight hour work day and 40 hour work week and to pay at least time-and-a-half for work performed in excess of these time limitations. Also, the Act prohibits your contractors and subcontractors from requiring laborers

and mechanics to work in hazardous, unsanitary, or dangerous conditions (see 29 CFR Part 1928).

(d) *Convict labor.* You may not use convict labor unless the convicts are on work release, parole, or probation (see 18 U.S.C. 436).

§ 30.610 What are my responsibilities for preventing and detecting fraud and other corrupt practices?

(a) You bear the primary responsibility for preventing, detecting, and prosecuting corrupt practices under your assistance agreement.

(b) If you become aware of allegations, evidence, or the appearance of corrupt practices, you must:

(1) Immediately inform the EPA project officer and the EPA Office of Inspector General; and

(2) Promptly pursue available State and local legal and administrative remedies.

§ 30.611 Can I hire a person or agency to solicit EPA assistance for me?

Yes, but you may not reimburse with EPA assistance funds any person, corporation, partnership, agency, or other entity which solicits or secures EPA assistance for you in exchange for a commission, a percentage fee, a brokerage fee, or a contingent fee.

§ 30.612 May an EPA employee act as my representative?

(a) An EPA employee may not represent you as an agent or attorney in any proceeding before EPA or any other Federal agency in which the United States is a party or has a direct or substantial interest unless:

(1) You are a State or local government agency;

(2) The EPA employee is on detail to the agency under the Intergovernmental Personnel Act (5 U.S.C. 3371-3376); and

(3) The representation takes place in the context of carrying out programs for which EPA and your agency have a joint responsibility under the environmental statutes.

(b) Except as provided for in paragraph (a) of this section, an EPA employee must not act as an agent or attorney for a recipient or for a contractor or subcontractor of a recipient in any claim against the United States.

§ 30.613 What is EPA's policy on conflict of interest?

EPA's policy is to prevent personal or organizational conflict of interest, or the appearance of such conflict of interest in the award and administration of EPA assistance, including subagreements.

(For restrictions on EPA employees, see 40 CFR Part 3.)

(a) An official or employee of a recipient may not participate in any activity relating to EPA assistance if any of the following persons or organizations, to the official's or employee's knowledge, has a financial interest in the activity:

- (1) The official or employee himself;
- (2) The official or employee's spouse or minor child;
- (3) A partner of the official or employee;

(4) An organization (other than a public agency) in which the official or employee serves as an officer, director, trustee, partner, or employee; or

(5) Any person or organization with whom the official or employee is negotiating or has any arrangement concerning prospective employment.

(b) Officials and employees of recipients must avoid any action which might result in, or create the appearance of:

- (1) Using official position for private gain;
- (2) Giving preferential treatment to any person;
- (3) Losing independence or impartiality;
- (4) Making an official decision outside official channels; or
- (5) Undermining public confidence in the integrity of EPA programs.

§ 30.615 May I employ a former EPA employee and still receive assistance?

You may hire a former EPA employee and still receive assistance provided the former employee complies with the restrictions on post-employment activities established by 18 U.S.C. 207. These restrictions are explained in regulations issued by the Office of Personnel Management under 5 CFR Part 737 and EPA regulations under 40 CFR Part 3.

Subpart G—Can An Assistance Agreement Be Changed?

§ 30.700 What changes to my assistance agreement require a formal amendment?

You must receive from the award official a formal amendment before implementing:

- (a) A transfer of an award to another recipient;
- (b) Changes in the objectives of the project;
- (c) Changes in the assistance amount;
- (d) Substantial changes within the scope of the project; or
- (e) A rebudgeting of the following:
 - (1) Amounts budgeted for either construction or non-construction activities if transferred from one activity to the other;

(2) Amounts budgeted for indirect costs to absorb increases in direct costs; or

(3) Amounts budgeted for training allowances if transferred to other cost categories.

§ 30.705 What changes can I make to my assistance agreement without a formal amendment?

Minor changes in the project work that are consistent with the objective of the project and within the scope of the assistance agreement do not require the execution of a formal amendment before the recipient's implementation of the change. However, such changes do not obligate EPA to provide Federal funds for any costs incurred by you in excess of the assistance amount, unless approved in advance under § 30.700.

§ 30.710 Can I terminate a part or all of my assistance agreement?

(a) You and EPA may terminate a part or all of your assistance agreement, when both parties agree that the continuation of the project will not produce beneficial results. You and the award official must agree on the conditions of the termination, the effective date, and in the case of partial termination, the portion to be terminated. EPA may unilaterally terminate for cause your assistance agreement under § 30.903 of this part.

(b) EPA will pay you the Federal share of allowable costs incurred up to the date of termination and allowable costs related to commitments you made prior to termination that you cannot cancel.

Subpart H—How Do I Close Out My Project?

§ 30.800 What records and reports must I keep after I complete my project?

You and your contractors must keep all books, records, documents, and other evidence (including accounting procedures and practices and subagreement documents) that track the progress of your project in accordance with the requirements under § 30.501.

§ 30.802 Under what conditions will I owe money to EPA?

(a) If the award official determines that you owe funds, you must reimburse the Federal government that amount. EPA will take appropriate legal and administrative action to collect the amount you owe the Agency if reimbursement is not made in a timely manner. EPA may offset the debt against other funds payable to you under an EPA or other Federal agency assistance agreement if not explicitly prohibited by another statute.

(b) EPA will charge you interest and penalty if you fail to pay within 30 days from the date of the Agency's final decision. (see Subpart L). The interest rate will be the rate established by the Secretary of Treasury in accordance with the Treasury Fiscal Requirements Manual 6-8020.20. The rates are published quarterly in the Federal Register. EPA will also charge you a penalty charge of 6 percent of the debt and will charge you its cost to handle and process the debt.

(c) The penalty and handling charges in this section do not apply to State and local governments, but the interest charges do apply.

Subpart I—What Measures May EPA Take for Non-Compliance?

§ 30.900 What are the sanctions for non-compliance?

If you do not comply with all of the terms and conditions of your assistance agreement, the award official may apply any of the following sanctions:

- (a) Issue a stop-work order;
- (b) Withhold payment;
- (c) Suspend or terminate your assistance agreement for cause;
- (d) Annul your assistance agreement;
- (e) Debar or suspend you as an eligible recipient;
- (f) Take other appropriate administrative action; or
- (g) Institute judicial proceedings.

§ 30.901 What are the consequences of a stop-work order?

(a) A stop-work order requires you to immediately stop the work or activities described in the order and to take all reasonable steps to minimize costs incurred on the work. The award official will issue the order in writing. The order will be in effect for forty-five days after you receive it unless cancelled or extended by mutual agreement between you and EPA. If the problem cannot be resolved during the stop-work period and EPA is likely to terminate or annul the agreement, the award official will so inform you.

(b) If the stop-work order is cancelled and it caused any increase in the cost of and/or the time for completing the project, you may request an adjustment in the project period, budget period, or assistance amount. You must submit a request for adjustment to the project officer within sixty days after the stop-work order ended.

§ 30.902 What are the consequences of withholding payments?

(a) The award official may withhold payments when you fail to comply with the tasks, reporting requirements, or

conditions of your assistance agreement. The award official will provide you reasonable notice in writing before withholding payment.

(b) The award official may withhold only the amount necessary to assure compliance with your assistance agreement.

(c) The award official may withhold payment to the extent you are indebted to the United States, unless the collection of the indebtedness will impair the accomplishment of the project and the continuation of the project is in the best interest of the United States.

§ 30.903 What are the consequences of termination for cause?

(a) The award official may unilaterally terminate your agreement in whole or in part at any time before the date of completion, whenever he determines that you have failed to comply with the conditions of your agreement. The award official will provide you an opportunity for consultation before issuing a notice of termination.

(b) If EPA terminates your agreement, the award official will notify you in writing of his determination, the reasons for the termination, and the effective date. Upon receiving the termination notice, you must stop work immediately. EPA will not reimburse you for any new commitments you make after you receive the termination notice.

(c) EPA will pay you the Federal share of allowable costs incurred up to the date of termination and allowable costs related to commitments you made prior to termination that you cannot cancel.

§ 30.904 What are the consequences of annulment?

(a) The award official may unilaterally annul in whole or in part your assistance agreement in any of the following cases:

(1) You have made no substantial progress on the project without good cause;

(2) You obtained an assistance agreement by fraud or misrepresentation;

(3) You are found to practice corrupt administrative procedures;

(4) You have inordinately delayed project completion without good cause; or

(5) You have failed to meet the project purpose to the extent that the fundamental purpose stated in the assistance agreement is frustrated.

(b) If EPA intends to issue an annulment, the award official will inform you of the annulment in writing. The award official will provide you an

opportunity for consultation before issuing a notice of annulment. If your assistance agreement is annulled, you must return all funds received for the project including those already expended. EPA may pursue other available remedies under Federal, State, and local laws.

§ 30.905 May I appeal a termination, or annulment?

You may appeal EPA's decision to terminate or annul an assistance agreement. Within thirty days after the notice of termination or annulment is issued, you must file a written request for appeal to the appropriate Assistant or Regional Administrator. Your appeal must follow the procedures under Subpart L of this part.

§ 30.906 What are the consequences of suspension or debarment?

EPA may suspend or debar you in accordance with 40 CFR Part 32. You may not receive assistance or a subagreement if your name or organization appears on EPA's Master List of Debarred and Suspended Firms and Individuals.

Subpart J—Can I Get An Exception ("Deviation") From These Regulations?

§ 30.1001 Will EPA grant any exceptions to these regulations?

(a) On a case-by-case basis, EPA will consider requests for exceptions to these regulations.

(b) EPA may issue a "deviation" from any of its assistance related regulations, except for those that implement statutory and executive order requirements.

(c) The award official may "waive" certain requirements of this subchapter for foreign grants. All provisions waived will be stated in the assistance agreement.

§ 30.1002 Who may request a deviation?

You, your project officer, or an EPA program office may request a deviation from EPA regulations. If you are the initiator, you must send your written request to your project officer if the request is for a Headquarters program or to the Regional Administrator for a Regionally administered program, who will then forward the request to the Director, Grants Administration Division, with a recommendation for approval or disapproval.

§ 30.1003 What information must I include in a deviation request?

Your request must include the following information:

(a) Your name, the assistance identification number, date of award, and the dollar value of the application or award;

(b) The section of the regulation from which you need a deviation;

(c) A complete description of what the deviation will do and a justification of why the deviation is necessary; and

(d) A statement of whether the same or a similar deviation has been previously requested. If such a request has been made previously, explain why it was made and the outcome.

§ 30.1004 Who approves or disapproves a deviation request?

(a) The Director, Grants Administration Division (GAD), approves or disapproves your deviation request. Assistant Administrators in the affected program areas must review and concur on deviations affecting a class of applicants or recipients.

(b) If EPA approves the deviation before an award, the revised requirement will be included in your assistance agreement. Approval of a deviation before an award does not guarantee an award.

§ 30.1005 May I appeal a deviation decision?

You may not appeal a deviation decision under the procedures in Subpart L of this part. However, you may request the Director of the Grants Administration Division to reconsider his decision.

Subpart K—What Policies Apply to Patents, Data, and Copyrights?

§ 30.1100 What assistance agreements are subject to EPA patent rules?

Except for wastewater treatment construction grants awarded under Title II of the Clean Water Act, as amended, all EPA assistance agreements involving experimentation, development, special investigations, surveys, studies, or research are subject to the EPA patent rules.

§ 30.1101 What Federal patent laws or policies govern my assistance agreement?

The nature of your organization will determine which laws and policies govern your assistance agreement:

(a) Small business firms and nonprofit organizations, including educational institutions, are entitled to the benefits of, and must comply with, Pub. L. 90-517 (35 U.S.C. Chapter 36).

(b) A profitmaking firm that is not defined as a small business firm, and whose assistance agreement is funded under section 6914 of the Resource Conservation and Recovery Act

(RCRA), must comply with section 6901(c) of RCRA. See Federal Procurement Regulations, 41 CFR Part 1-9, specifically 1-9.107-5(a) for the required patent rights clause.

(c) If you are neither a small business firm nor a profitmaking firm with an award under section 6914 of RCRA, you are subject to the guidelines in the President's Memorandum on Government Patent Policy issued on February 18, 1963 (Weekly Compilation of Presidential Documents, vol. 19, no. 7, page 252), and, therefore, must comply with Pub. L. 96-517, 35 U.S.C. Chapter 38.

§ 30.1102 What are my invention rights and my reporting requirements if my award is other than an award under section 6914 of RCRA?

You must report all inventions to EPA and decide whether you wish to retain domestic and/or foreign rights to your invention. You must notify EPA of your decision within the time period specified in the patent rights clause included in your assistance agreement. If you do not decide to retain rights to your invention within the time specified, EPA may acquire title from you. If you retain title, EPA acquires a royalty-free, irrevocable license to use the invention throughout the world by, and on behalf of, the Federal Government.

§ 30.1103 What are my invention rights and obligations if I am a profitmaking firm with an award under section 6914 of RCRA?

If you are not a small business and your assistance agreement does not indicate otherwise, you must comply with the patent rights clause, entitled "Patent Rights Acquisition by the Government" (41 CFR 1-9.107-5(a)), which implements section 6901(c) of RCRA. Under this section, EPA normally obtains title to your invention.

§ 30.1104 Can I get a waiver from section 6901(c) of RCRA?

On a case by case basis, you may ask EPA for a deviation from section 6901(c) of RCRA. You must follow the procedures in Subpart J.

§ 30.1106 Do the patent rules apply to subagreements?

(a) Yes, if the subagreements involve experimentation, development, special investigations, surveys, studies, or research, you must include the appropriate patent rights clause in the subagreement. All business firms and nonprofit organizations awarded subagreements are entitled to the benefits and must comply with Public Law 96-517 and the President's Memorandum on Government Patent

Policy of February 13, 1963, except that a party to a subagreement awarded under section 6914 of RCRA which is a profitmaking firm not defined as a small business firm, is subject to § 30.1101(b).

(b) Subagreements must be in compliance with the "Patent and data and copyright clause" in 40 CFR Part 33, and generally must contain the same patent rights clause as contained in your assistance agreement.

§ 30.1108 Does EPA require any type of licensing of background patents that I own?

Generally, EPA does not require such licensing. However, in awards subject to Pub. L. 96-517 the Administrator may approve such a requirement under exceptional circumstances.

§ 30.1112 Are there any other patent clauses or conditions that apply to my award?

Your award is subject to both the Notice and Assistance Clause and the Authorization and Consent Clause in Appendix B to this part.

§ 30.1130 What rights in data and copyrights does EPA acquire?

All assistance agreements and subagreements are subject to Appendix C. As set forth in Appendix C, the Federal Government has an unrestricted right to use any data or information generated using assistance funds or specified to be delivered to EPA in the assistance agreement. The Federal Government has a royalty-free, irrevocable license to use any copyrighted data in any manner for Federal Government purposes.

Subpart L—How Are Disputes Between EPA Officials and Me Resolved?

§ 30.1200 What happens if an EPA official and I disagree about an assistance agreement requirement?

(a) Disagreements should be resolved at the lowest level possible.

(b) If you can not reach an agreement, the EPA disputes decision official will provide you with a written final decision. The EPA disputes decision official is the individual designated by the award official to resolve disputes concerning your assistance agreement.

(c) The disputes decision official decision will constitute final agency action unless you file a request for review by registered mail, return receipt requested, within 30 calendar days of the date of the decision.

§ 30.1205 If I file a request for review, with whom must I file?

(a) For final decisions issued by an EPA disputes decision official at

Headquarters, you must file your request with the Assistant Administrator responsible for the assistance program.

(b) For final decisions issued by a Regional disputes decision official, you must file your request for review with the Regional Administrator. If the Regional Administrator issued the final decision, you must request the Regional Administrator to reconsider that decision.

§ 30.1210 What must I include in my request for review or reconsideration?

Your request must include:

- (a) A copy of the EPA disputes decision official's final decision;
- (b) A statement of the amount in dispute;
- (c) A description of the issues involved; and
- (d) A concise statement of your objections to the final decision.

§ 30.1215 What are my rights after I file a request for review or reconsideration?

- (a) You may be represented by counsel and may submit documentary evidence and briefs for inclusion in a written record;
- (b) You are entitled to an informal conference with EPA officials; and
- (c) You are entitled to a written decision from the appropriate Regional or Assistant Administrator.

§ 30.1220 If the Assistant Administrator confirms the final decision of the Headquarters disputes decision official, may I seek further administrative review?

A decision by the Assistant Administrator to confirm the final decision of a Headquarters disputes decision official will constitute the final Agency action.

§ 30.1225 If the Regional Administrator confirms the final decision of the Regional disputes decision official, may I seek further administrative review at EPA Headquarters?

(a) A determination by the Regional Administrator to confirm the Regional disputes decision official's decision will constitute the final Agency action. However, you may file a petition for discretionary review by the Assistant Administrator responsible for the assistance program within 30 calendar days of the Regional Administrator's decision. Your petition must be sent to the Assistant Administrator by registered mail, return receipt requested, and must include:

- (1) A copy of the Regional Administrator's decision; and

(2) A concise statement of the reasons why you believe the decision is erroneous.

(b) If the Assistant Administrator decides not to review the Regional Administrator's decision, the Assistant Administrator will advise you in writing that the Regional Administrator's decision remains the final Agency action.

(c) If the Assistant Administrator decides to review the Regional Administrator's decision, the review will generally be limited to the written record on which the Regional Administrator's decision was based. The Assistant Administrator may allow you to submit briefs in support of your petition for review and may provide you an opportunity for an informal conference in order to clarify factual or legal issues. After reviewing the Regional Administrator's decision, the Assistant Administrator will issue a written decision which will then become the final Agency action.

§ 30.1230 Will I be charged interest if I owe money to EPA?

(a) Interest will accrue on any amounts of money due and payable to EPA from the date of the final Agency action. If you are not a State or local government, you will also be charged a penalty of 6 percent of the amount due, and you will be charged the cost to handle and process the debt. (See § 30.802). Only full payment of the debt within 30 days from the date of the final Agency action will prevent EPA from charging the interest, penalty, and handling charges on the amount outstanding.

(b) State and local government recipients are not subject to the penalty and handling charges in this section, but are subject to the interest charges.

§ 30.1235 Are there any EPA decisions which may not be reviewed under this subpart?

You may not appeal:

(a) Disapprovals of deviations under Subpart J;

(b) Bid protest decisions under Part 33;

(c) National Environmental Policy Act decisions under Part 6;

(d) Advanced wastewater treatment decisions of the Administrator; and

(e) Policy decisions of the EPA Audit Resolution Board.

Appendix A—EPA Programs

The following chart identifies EPA's assistance programs and the types of awards (grants or cooperative agreements) that EPA will award under these programs.

Catalog of Federal domestic assistance No.	Title	Funding mechanism
66.601	Air Pollution Control Program	(1)
66.603	Air Pollution Control Manpower Training	(1)
66.606	Air Pollution Control—Technical Training	(1)
66.618	Air Pollution Control Fellowships	(1)
66.619	Construction Grants for Wastewater Treatment Works	(2)
66.620	Water Pollution Control—State and Interstate Program	(1)
66.621	Water Pollution Control—State and Local Manpower Program Development	(2)
66.622	Water Pollution Control Fellowships	(1)
66.623	Water Pollution Control—Professional Training	(1)
66.624	State Public Water System Supervision Program	(2)
66.625	State Underground Water Source Protection Program	(2)
66.626	Water Pollution Control—State Restoration Cooperative Agreements	(2)
66.628	Construction Management Assistance	(1)
66.631	Hazardous Waste Management Financial Assistance to States	(1)
66.634	Water Quality Management Planning	(1)
66.635	State Drinking Water Professional Training	(1)
66.636	State Drinking Water Occupational Training	(2)
66.637	State Drinking Water Fellowships	(1)
66.638	Environmental Protection—Consolidated Research	(2)
66.639	Air Pollution Control Research	(2)
66.640	Pesticides Control Research	(2)
66.641	Solid Waste Disposal Research	(2)
66.642	Water Pollution Control—Research, Development, and Demonstration	(2)
66.643	State Drinking Water Research and Demonstration	(2)
66.644	Toxic Substances Research	(2)
66.645	Environmental Protection Consolidated Grants—Program Support	(2)
66.646	Loan Guarantees for Construction of Treatment Works	(1)
66.647	Pesticides Enforcement Program Grants	(1)
66.648	State Inventories of Uncontrolled Hazardous Waste Sites	(2)
66.649	Hazardous Substance Response Trust Fund (Superfund)	(1)

¹ Cooperative Agreement.

² Grant Agreement.

³ Either.

⁴ Loan or Fellowship.

Appendix B—Patents and Copyrights Clauses Notice and Assistance Clause

(a) The recipient must report to the project officer, promptly and in reasonable written detail, each known notice or claim of patent or copyright infringement on this agreement.

(b) In the event of any claim or suit against the Government, on account of any alleged patent or copyright infringement arising out of the performance of this agreement or out of the use of any supplies furnished or work or services performed hereunder, the recipient must furnish to the Government, when requested by the project officer, all evidence and information in possession of the recipient pertaining to such suit or claim. Such evidence and information must be furnished at the expense of the Government except where the recipient has agreed to indemnify the Government.

(c) The recipient must include in each subagreement (including any lower tier subagreement) in excess of \$10,000 a clause

substantially similar to the foregoing provisions.

Authorization and Consent Clause

EPA gives its authorization and consent for all use and manufacture of any invention described in and covered by a patent held by the United States in the performance of an assistance agreement and any subagreement.

Appendix C—Rights in Data and Copyrights

(a) The term "subject data" as used in this clause includes writing, technical reports, sound recordings, magnetic recordings, computer programs, computerized data bases, data bases in hard copy, pictorial reproductions, plans, drawings, including engineering or manufacturing drawings, specifications, or other graphical representations, and works of any similar nature (whether or not copyrighted) which an applicant submits or which EPA specifies to be delivered under this assistance agreement or which a recipient develops or produces and EPA pays for under this assistance agreement. The term does not include financial reports, cost analyses, and other information incidental to assistance agreement administration.

(b) Except as may otherwise be provided in this assistance agreement, when publications, films, or similar materials are developed directly or indirectly from a project supported by EPA, the author is free to arrange for copyright without approval. However such materials shall be subject to the provisions of 40 CFR 30.518. The recipient agrees to and does hereby grant to the Government, and to its officers, agents, and employees acting within the scope of their official duties, a royalty-free, nonexclusive, and irrevocable license throughout the world for Government purposes to publish, translate, reproduce, deliver, perform, dispose of and to authorize others so to do, all subject data, or copyrightable material based on such data, covered by copyright now or in the future.

(c) The recipient shall not include in the subject data any copyrighted matter without the written approval of the project officer, unless he provides the Government with the written permission of the copyright owner for the Government to use the copyrighted matter in the manner provided in paragraph (b) above.

(d) Nothing contained in this Appendix shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other rights otherwise granted to the Government under any patent.

(e) Unless otherwise limited below, the Government may, without additional compensation to the recipient, duplicate, use, and disclose in any manner and for any purpose whatsoever, and have others so do, all subject data.

(f) Notwithstanding any provisions of this assistance agreement concerning inspection and acceptance, the Government shall have the right at any time to modify, remove, obliterate, or ignore any marking restricting disclosure of subject data if the marking is not authorized by the terms of this assistance agreement.

(g) Data need not be furnished for standard commercial items or services which are normally sold, or have been sold, or offered to the public commercially by any supplier and which are incorporated as component parts in or to be used with the product or process being developed or investigated under this assistance agreement, if in lieu thereof identification of source and characteristics (including performance specifications, when necessary) sufficient to enable the Government to procure the part or practice the process, or acquire an adequate substitute, are furnished.

(h) In addition to any data specified elsewhere in this assistance agreement to be furnished to EPA, the recipient shall retain and, upon written request of the project officer at any time during project performance or within two years after project performance is completed, deliver any subject data not previously delivered.

Appendix D.—Part 38 Reporting Requirements

Application for EPA assistance and application related forms	OMB clearance No.
(1) EPA Form 5700-12 "Application for Federal Assistance (Research, Training & Demonstration)." (See § 30.302)	2010-0004
(2) EPA Form 5700-20A "EPA Assistance Agreement/Amendment." (See § 30.302)	2010-0004
(3) EPA Form 5700-20B "Assistance Amendment (Optional)." (See § 30.302)	2010-0004
(4) EPA Form 5700-30 "Preapplication for Federal Assistance (Optional)." (See § 30.302)	2010-0004

Application for EPA assistance and application related forms	OMB clearance No.
(5) EPA Form 5700-31 "Application for Federal Assistance (Short Form)." (See § 30.302)	2010-0005
(6) EPA Form 5700-32 "Application for Federal Assistance (Construction)." (See § 30.302)	2010-0003
(7) EPA Form 5700-33 "Application for Federal Assistance (Nonconstruction Programs)." (See § 30.302)	2010-0004
(8) EPA Fellowship Forms:	
(a) EPA Form 5770-3 "Fellowship Application" (See § 30.302)	2010-0004
(b) EPA Form 5770-3 "Fellowship Facilities and Commitment Statement" (See § 30.302)	2010-0004
(c) EPA Form 5770-4 "Fellowship Applicant Qualifications Inquiry" (See § 30.302)	2010-0004
(d) EPA Form 5770-5 "Agency Fellowship Certification" (See § 30.302)	2010-0004
(e) EPA Form 5770-6 "Fellowship Amendment" (See § 30.302)	2010-0004
(f) EPA Form 5770-7 "Fellowship Activation Notice" (See § 30.302)	2010-0004
(g) EPA Form 5770-8 "Fellowship Agreement" (See § 30.302)	2010-0004
(h) EPA Form 5770-9 "EPA Fellowship Termination Notice" (See § 30.302)	2010-0004
(9) SF-268 "Financial Status Report." (See § 30.505)	2010-0004
(10) SF-270 "Request for Advance or Reimbursement" (See § 30.400)	2010-0004
(11) SF-271 "Outlay Report and Request for Reimbursement for Construction Programs" (See § 30.505)	2010-0004
(12) SF-272 "Federal Cash Transactions Report" (See § 30.400)	2010-0004
B. Other Reporting Requirements and Processes	
(1) Establish a separate bank account if the recipient uses the letter of credit method of payment.	2010-0004
(2) Establish official records for each assistance award and keep them for specified periods of time.	2010-0004
Application for EPA assistance and application related forms	OMB clearance No.
(3) Develop and implement quality assurance practices to meet project objectives and minimize loss of data due to out-of-control conditions or malfunctions.	2010-0400
(4) Submit interim and final progress reports.	2010-0004
(5) Report all inventions developed with EPA assistance funds.	(*)
(6) Report on all Federally-owned property used on a project.	2010-0004
(7) Maintain a financial management system that consistently applies accepted accounting principles and practices.	2010-0004
(8) Comply with EPA peer and administrative review requirements.	(*)
(10) Obtain EPA's written authorization to use the recipient's own employees or equipment for construction, construction-related activities, or for repairs or improvements to a facility ("force account").	2010-0004
(11) Obtain EPA's approval before purchasing property or equipment with a unit acquisition cost of \$10,000 or more.	2010-0004
(12) Comply with certain property management standards.	2010-0004
(13) Comply with EPA requirements when disposing of property with a purchase price of \$1,000 or more.	2010-0004
(14) Obtain EPA approval for the purchase of real property.	2010-0004
(15) Comply with EPA requirements for management of Federally-owned property.	2010-0004
(16) Request EPA approval to deviate from EPA regulations.	2010-0004
(17) Follow certain procedures to appeal an award official's written final decision on a dispute over the requirements in an assistance agreement.	2010-0004

* OMB Clearance Number 2010-0004 was submitted to OMB for a time extension on September 19, 1983. We will publish OMB's extension in the FEDERAL REGISTER.

* Will be submitted to OMB.

* No clearance required.

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R-1

APPENDIX R
HOW TO CONDUCT
A SANITARY SURVEY

APPENDIX R HOW TO CONDUCT A SANITARY SURVEY

Introduction and Background

This report presents a methodology for conducting a sanitary survey and discusses how the survey results can be used in facility planning. The purpose of the report is to promote more consistency in sanitary surveys that are used to document need for construction grants projects. The target audience for this report includes consultants, municipal officials and local health departments.

As used in this report, a sanitary survey is defined as a logical, investigative approach to gather information to evaluate the condition of existing onsite wastewater systems. Sanitary surveys are performed for two reasons:

- o to document the condition of existing onsite systems for facility planning purposes;
- o to locate sources of water pollution and public health problems.

The scope of the survey may vary depending on its purpose. A survey to locate the source of specific water pollution or public health problems can be narrower in scope than one designed to evaluate the general condition of all the onsite systems in an area.

Sanitary surveys should be conducted early in the facility planning process - during the data gathering stage. Conducting the survey early will also provide valuable background information on the area's soil, topography, groundwater, surface water and population density characteristics.

The survey methodology presented in this report is patterned after the following format:

- o Planning the Survey;
- o Conducting a Preliminary Survey;
- o Conducting a Detailed Survey;
- o Evaluating the Survey Results;
- o Incorporating the Results into Facilities Planning

A flow chart for the survey methodology appears in Figure 1.

Planning the Survey

In order to evaluate the condition of existing onsite systems, criteria must be established for defining an onsite failure. While the survey is being conducted this criteria would be used to evaluate how onsite systems are functioning and to categorize sites.

The following situations may indicate a failed onsite system:

- o Surface outbreak of septic tank effluent;

Figure 1

Flow Chart for Survey Methodology

Plan the survey

- o Establish criteria for classifying condition of onsite systems.
- o Investigate legal, jurisdictional, zoning and related matters.
- o Discuss survey with local officials.
- o Consider resource requirements.

Conduct the Preliminary Survey

- o Review local health department records.
- o Interview local onsite system experts.
- o Perform windshield inspections.
- o Review available soil data.
- o Review available maps.
- o Evaluate preliminary survey data to establish condition of onsite systems.

Conduct the Detailed Survey

- o Establish required scope of detailed survey.
- o Complete questionnaire and house-to-house surveys.
- o Sample groundwater and/or surface water.
- o Conduct general site inspections.
- o Conduct detailed site inspections.

Evaluate survey results and data

- o Calculate the number of "net problems".
- o Categorize individual sites - place information on maps.
- o Develop study area maps and overlays for factors affecting the functioning of onsite systems.

- Exception - surface outbreak following infrequent high volume water use (e.g., due to a large party)
- o Chronic backup of wastewater into plumbing fixtures;
Exception - backups caused by faulty plumbing
- o Groundwater or surface water pollution;
Exception - pollution from non-wastewater origin (e.g., nitrates from fertilizer, coliforms from animals)
- o Dead vegetation in the area of the soil absorption system (SAS).

There are some onsite systems that may be inadequate but should not be considered a failed system. These may include direct discharges and privies. The determination of whether any type of system has failed should be based on its performance relative to its original design.

In addition to establishing criteria to evaluate the condition of onsite systems, planning should include:

- o Investigation of legal, jurisdictional, zoning and related matters - Local regulations can have a profound effect on how a sanitary survey is conducted. Special attention should be paid to the rights of access to private property.
- o Discussion of the sanitary survey with informed persons in the project area - Involving the local sanitarian, septic system installers, septage pumpers and septage treatment facility operators, can help to prevent problems and ensure better results. Such persons usually have a wealth of information concerning local soils and groundwater; onsite system construction, regulations and practices; and onsite system failures.
- o Consideration of resources required - Necessary resources could include personnel, transportation, supplies, and laboratory. The most critical resource is personnel. Persons conducting and evaluating the survey should be familiar with the principles of soil science, drainage, hydrology, and sanitary engineering and have experience with onsite system construction, operation, and failure.

Conducting the Preliminary Survey

A preliminary survey consolidates readily available information concerning an area's onsite systems. As its name suggests, a preliminary survey is conducted prior to performing any original survey tasks. In some instances, a preliminary survey may provide sufficient information to reach conclusions concerning the condition of existing onsite systems. In this situation, some site visits or homeowner interviews to confirm the preliminary survey results may be all that is required to complete the sanitary survey.

Preliminary survey techniques include:

- o Review of local health department records;
- o Interviews with persons knowledgeable about local onsite systems (sanitarians, septage pumpers, etc.)
- o Windshield survey;
- o Review of Soil Conservation Service (SCS) and other soil information;
- o Review of available maps and aerial photographs.

Review of local health department records - Records to review include:

- o Sewage related citizen complaints - The history of sewage related complaints provide data on the type, location and frequency of onsite system failures. Investigations made subsequent to the complaint may indicate the causes of onsite failure and reveal historical solutions to onsite system problems.
- o Onsite system repair/installation permits - These permits provide information on the age, location, and construction of systems; cause of onsite system failure; attempted solutions to onsite problems; and soils.
- o Private potable well and water system quality data - This information locates wells and other water sources which may be contaminated by human waste. Since deterioration of potable water supplies is often cited as a reason to construct centralized systems, it is important to determine the cause of potable water contamination. Available data must be evaluated carefully to determine if onsite systems are actually the cause of contamination. Such analysis should center on groundwater levels, groundwater direction and rate of flow, soil types, separation distance between onsite system and wells and water quality information. Many authorities feel that poorly constructed wells or surface water run-off into faulty well casings are the cause of a high percentage of well contaminations. If contaminated potable water sources are a problem, the most cost-effective solution might be to renovate the existing wells and/or install a community water distribution system rather than replace functional onsite systems.
- o Onsite system pumpout records - Available pumpout records can provide information on the location and frequency of failures. It should be noted that pumpouts are also performed for routine system maintenance and a pumpout at a specific location does not necessarily indicate an onsite system failure. However, great frequency of pumpouts in a particular area could indicate there are onsite system problems in the general area.
- o Surface water, groundwater and hydrological information - Evaluation of surface water for elevated wastewater contaminant levels (e.g., bacteria, nitrogen) might indicate a localized sewage outbreak making its way to the surface water. Groundwater quality below a soil absorption system can be evaluated to indicate the degree of treatment onsite systems are providing. Hydrological information would indicate the direction and speed of groundwater movement and the elevation of seasonal and high groundwater.
- o Previously conducted surveys - The results of previously conducted surveys should be carefully evaluated to eliminate duplication of valid prior effort in conducting the detailed sanitary survey. The results of previously conducted surveys should be confirmed during the detailed survey using the techniques subsequently described in this report.

- o Land use, zoning, and building records - These records provide the surveyor with information useful in relating onsite failures to existing and potential population density and land use, and the age of the onsite systems.

Interviews with persons knowledgeable about local onsite systems - These services and the information they can provide are:

- o Sanitarians - types and frequency of existing onsite failures, soils, local design and construction practices, and longevity of existing systems.
- o Soil scientists, including U.S. Department of Agriculture Soil Conservation Service (SCS) personnel, - local soil characteristics and their effect on treatment and movement of wastewater; and groundwater information.
- o Septic tank installers - local design and construction standards and practices, areas of recent construction activity, and consistent failure information.
- o Septage haulers - local maintenance procedures, and locations of frequent calls.
- o Building department officials - local design and construction standards and practices, locations and longevity of existing systems.

Windshield Survey - A drive through a community with a knowledgeable guide can provide good general information on site conditions. It will assist in planning a detailed survey by giving the surveyor a "feel" for the area and the information to develop a detailed survey methodology and cost estimate.

Review of Soil Conservation Service and other soil information - Soil surveys are published by the U.S. Department of Agriculture SCS. Modern soil survey reports having urban interpretations include aerial photographs of a mapping area (generally a county) on which the distribution and kinds of soils are indicated. Detailed descriptions of each soil series are provided, as well as interpretations about the potential use of each soil for woodland, recreation, and engineering purposes. This allows the surveyor to estimate that some sites may not be amenable to conventional SAS's. It must be noted that a "severely limited" soil designation in SCS surveys cannot be used by itself to document need. In addition, SCS maps are not sufficiently detailed or precise to serve as a substitute for site specific soil investigation required for the design of onsite systems. Local health department records may also contain substantial information on soils and should be consulted.

Review of available maps and aerial photographs - Existing color infrared photographs of the survey area may indicate possible areas of failure and should be consulted. They should be interpreted by a trained person.

As the preliminary survey is being conducted, information gathered by the survey should be posted on a comprehensive map or otherwise recorded. Onsite systems should be categorized on the map or chart according to the degree and type of existing problem. Mapping and the categorizing of sites will be discussed in a subsequent part of this report.

When the preliminary survey is complete, the data gathered should be evaluated to determine what additional information must be obtained in the detailed survey.

Conducting the Detailed Survey

The scope of a detailed survey is determined by the extent that preliminary survey results determine the condition of existing onsite systems. For some sanitary surveys it is not necessary to perform all of the detailed survey techniques listed. The detailed survey should be planned to perform the least amount of original survey work necessary to reach conclusions about the condition of as many existing onsite systems as possible within the financial constraints of the survey. Detailed sanitary surveys tend to be resource intensive especially in the area of personnel requirements.

There are a number of techniques which can be used to conduct detailed sanitary surveys:

- o System user feedback (questionnaire, house-to-house survey);
- o Remote detection of failure (aerial photography, dye tests) and site confirmation;
- o Ground and surface water sampling;
- o General site inspections;
- o Detailed site inspections.

System user feedback - The mailed questionnaire and the house-to-house survey are the most common ways of finding out how users think their onsite systems are working. The mailed questionnaire asks each homeowner the same questions and is less manpower intensive than the door-to-door survey. For both the questionnaire and the door-to-door survey there is the risk that homeowners may not be entirely truthful about the condition of their failing systems for fear of incurring additional expense for an upgraded wastewater treatment system.

Questionnaires and house-to-house surveys should be individually developed to suit each community's circumstances. They should be carefully written and structured to be statistically valid and provide meaningful results. In addition, questionnaires and surveys should provide information for use in evaluating the possibility of onsite system rehabilitation. Appendix A contains an example questionnaire.

Questions concerning system size, system age, water consumption and individual user habits may aid in determining if rehabilitation is feasible. For instance, if a forty-year old onsite system serving a two bedroom summer bungalow fails, the survey interview might reveal that the bungalow is currently used year round by a family larger than that which previously occupied the premises. Wastewater loading that continually exceeds the capacity of an onsite system can easily cause an older onsite system to fail. Rehabilitation of this system could be as simple as enlarging the absorption field, reducing water use or both.

Mailed questionnaire results should be confirmed by a site inspection of a number of the systems suspected as having failed and an interview of the homeowners. House-to-house survey results should also be confirmed by detailed homeowner interviews and concurrent site inspections by the interviewer. The number of failed systems to be inspected would be determined by the level of confidence the surveyor has in the questionnaire results or house-to-house survey results. Confirming 25% of the problem systems would not be unreasonable.

Remote detection - Aerial photography is a relatively reliable and cost-effective method of detecting malfunctioning onsite systems.

Aerial photography using color infrared film permits a community to be surveyed rapidly at a relatively low cost per household. Aerial photographic detection is effective only for surface onsite malfunctions. It is a three phase process: taking the photographs, interpreting the results, and checking suspected malfunctions. True color and color infrared film are usually used but only color infrared film is necessary.

Timing of overflights is an important consideration. Onsite system failure can best be detected when groundwater elevation is highest and foliage is at a minimum. Best results are obtained during spring and late fall.

Suspected malfunctions may be identified from aerial photographs by the following signatures when they are in the proper pattern and location: dead vegetation, especially grass; standing water; and dark soil indicating excessive organic matter.

All suspected malfunctions should be field confirmed as soon after a flight as is practicable. Suspected malfunctions can then be reclassified as a confirmed problem, suspected as still having a problem, or as an irrelevant signature.

Aerial photography can also be used for other purposes during facility planning including evaluation of house counts, land use, surface drainage patterns, and layout of wastewater facilities and other utilities.

Groundwater/surface water sampling - A routine groundwater and surface water sampling program for bacteriological and chemical contamination can assist in determining if onsite wastewater system failures have occurred. If routine sampling indicates contamination by human waste, more detailed sampling can be carried out to pinpoint the location of contamination.

General site inspection - General site inspections of residential and commercial locations should be conducted to observe evidence of onsite system failure. Existing wastewater systems, wells, surface waters, and the overall site should be inspected. The inspection of the wastewater system can range from observing if there is any evidence of sewage outbreak (dead vegetation, odors, etc.) to physical examination of the existing systems to evaluate the

construction of the system. Due to the expense and disruption involved, physical examinations should be limited at this stage to those that would confirm a specific problem common to a large number of cases, for example, faulty installation.

General site inspections are conducted for sanitary surveys where more than preliminary survey work is required to conclusively determine the condition of existing onsite systems. They are manpower intensive and, as a result, can be expensive to perform. Inspections should be targeted to confirm existing data, aerial photographic results, and surface water quality sampling.

Detailed site inspections - Detailed site inspections are an in-depth investigation of the cause of onsite system failure. They should be conducted as part of the sanitary survey when the causes of onsite failure must be known, in addition to simply establishing the existence of a failure. Detailed site inspections may include the following types of activities:

- o Investigation of site specific soils and groundwater - dig test pit adjacent to soil absorption area to identify soil types, observe groundwater level and seasonal fluctuation (by examination of soil profile).
- o Examination of construction and physical condition of onsite system and ancillary plumbing - check for leaks, cracks, improper slope, blockages etc.
- o Determination of user habits - by interviewing occupants, estimate total water use, peak periods of water use (laundry, dishwashing, showering), type and number of fixtures, use of harmful chemicals or other bad practices, potential for water conservation.
- o Evaluation of effluent quality - test effluent from treatment tank for suspended solids, chemical/biological oxygen demand and pH. Test groundwater near soil absorption system for nitrates, dissolved solids, chemical/biological oxygen demand and pH.

Detailed site inspections should also be conducted for locations where site and other characteristics indicate that there is a tendency for onsite system failure. Sites which have the following characteristics might be expected to have onsite systems prone to failure:

- o Seasonally or permanently high water table;
- o Small lot size;
- o Unusual groundwater flow;
- o Well contamination;
- o Shallow groundwater contamination;
- o Impermeable soil;
- o Shallow soil mantle over ledgerrock;
- o Systems constructed by contractors with historically poor construction practices.
- o Systems designed using inadequate design standards.

Representative sampling of sites exhibiting these characteristics might uncover onsite systems that have already failed or could fail in a short period of time. In this manner, unnoticed water quality and public health problems can be uncovered.

In addition to providing information on the cause and location of onsite failures, detailed site inspections produce significant information which can be used in subsequent design of new and rehabilitated onsite systems.

Evaluating the Survey Results

By the time the preliminary and detailed surveys are completed, a great deal of information concerning the condition of existing onsite systems, possible causes of onsite system failure, and other area characteristics (e.g., water quality, soils) has been amassed. As information becomes available and conclusions can be made regarding the condition of onsite systems, each site in the study area should be categorized. Sites can be categorized as follows:

- o "no problem" - where there is no known sewage problem;
- o "problem" - where a water quality or public health problem exists due to a failed system;
- o "inconclusive" - where survey information indicates there may be a problem;
- o "unknown" - where no information is available about the condition of the onsite system.
- o "inadequate" - where a system is functioning as designed but does not meet minimum code requirements or is overloaded.

As information on the condition of onsite systems becomes available and sites are categorized, a system to keep track of this information is necessary. Charts using street addresses or locations to give order to survey results is a possible means of keeping track of survey results; however, the development of a comprehensive map which integrates and visually displays survey results might be more useful. Such a comprehensive map consists of one or more study area maps and transparent overlays. The study area map should have sites (lots) clearly indicated. One or more overlays would categorize the sites. Other overlays would contain site specific information about factors that could influence the functioning of onsite systems. Factors to consider include:

- o Groundwater depth below grade and/or groundwater elevation,
- o Soil permeability,
- o Population density,
- o Land use,
- o Frequency and location of onsite system pumpouts,
- o Onsite system age/dwelling age,
- o Quality of onsite system construction and design.

By mapping onsite "problem" (failure) locations with overlays of these factors, relationships may become apparent which will help in further categorizing the sites by probable cause of failure. For instance, if the map locating onsite failures is overlaid with a map showing groundwater depth contours, numerous failures in locations where groundwater is close to the surface may be shown. Relating onsite system problems in a systematic manner to site and other characteristics can also point the facility planner in the direction of possible solutions to the problems.

Categorization of sites by problem cause allows the facility planner to determine if a structural modification is required or if proper O&M would correct the problem. Further, it allows a determination of whether the existing onsite system can be rehabilitated, a new onsite system is necessary, or transport to a neighborhood or centralized treatment system is required. Lumping all problems together as a justification for sewerage an area is not an acceptable use of sanitary survey data.

Incorporating the Results into Facilities Planning

Sanitary surveys should be conducted by all unsewered communities that are contemplating improvements to their present method of wastewater disposal regardless of whether application for an EPA construction grant is contemplated. Properly conducted sanitary surveys provide the facility planner with information to determine feasible project alternatives.

From the standpoint of choosing the least cost wastewater alternative, facility planners should give careful consideration to onsite solutions. In general, onsite systems are cheaper to construct and maintain than centralized systems for sparsely populated areas. In choosing the least cost alternative it is extremely important that more sophisticated onsite systems (e.g., sand filters, mounds, evapotranspiration beds) be considered where technically appropriate. In areas where onsite treatment or disposal of wastewater is not feasible due to impermeable soils, high groundwater or other reasons, conveyance of septic tank effluent via an alternative conveyance system (e.g., pressure sewer, small diameter gravity sewers, vacuum sewer) to another site for treatment should be considered. Treatment can be by soil absorption system, if a suitable site is available, or by an alternative system such as a mound or a sand filter.

Sanitary surveys are central to adequate facility planning in unsewered areas. Sanitary surveys that objectively evaluate the condition of existing onsite systems and are followed up by sound cost-effective analyses, should help small communities construct the least cost, technically appropriate wastewater facilities. Perhaps the best illustrations of this are the Seven Lakes projects in the Great Lakes Region. The original projects for these seven lake communities proposed conventional sewerage and treatment plants. The costs were prohibitively expensive. An EPA team surveyed each area, reassessed the problem and proposed non-centralized solutions which were substantially less costly yet more sound environmentally.

A few examples of these projects are:

o Steuben Lakes (Steuben County, Indiana)

The original project consisted of a collector system, 85 miles of interceptors, and a treatment plant to serve an unsewered community. The project cost was \$4.0 million with annual user costs of \$260 per household.

By revising the project to utilize alternative systems, the cost was reduced by \$16 million and annual user charges were reduced to \$38 per household. The alternative systems, which offer better pollution control, consists of cluster systems, pressure sewers, soil absorption systems, and upgraded existing onsite systems.

o Crooked and Pickere1 Lake (Emmet County, Michigan)

The originally proposed \$3.9 million project consisted of sewerage around two lakes and conveying the wastewater to a plant 10 miles away. Annual user costs were \$300 per household.

The project was revised to include a combination of different systems (alternative collectors and cluster systems) with a net savings of \$2 million.

o Crystal Lake (Benzie County, Michigan)

The original \$18 million project consisted of collector sewers and a treatment plant to replace septic systems. The annual user cost was \$292 per household.

The revised project, which resulted in an \$8 million savings, consists of upgraded onsite systems, cluster systems, partial sewerage of the lake area, and land application. This project conserves water and costs \$152 - \$193 per household per year.

Appendix A

Example of a Sanitary Survey Questionnaire

REQUEST FOR INFORMATION ON WASTEWATER DISPOSAL

Please supply us with the information requested on this form. Your cooperation in completing this form will assist (fill in name of grantee or responsible entity) to determine the condition of existing onsite wastewater systems and plan for wastewater system improvement.

Your name and address: _____

Owner's name (if different): _____

Lot size: _____

How long have you lived there: _____

Type of water supply: _____

1. Type of Building

A. Residential ____ Number of bedrooms _____

B. Motel ____ Number of Units _____ Total Capacity _____

C. Restaurant ____ Seating Capacity _____

D. Other ____ Describe _____

E. Age of Building _____ Was building occupied prior to 12/27/77? ____
Was building occupied prior to 10/72? ____

2. What type of wastewater disposal system do you have? (Note if more than one system.)

a. ____ septic tank, ____ aerobic unit

Type: ____ concrete ____ steel ____ unknown
Size: ____ gallons

with:

____ leachfield, or
____ seepage pit or leaching pit (sometimes called cesspool)
____ discharge to surface water or ditch, or
____ other (specify) _____

b. cesspool without septic tank

c. ____ outhouse (privy) or other system that does not use water

d. _____ other (specify) _____

2. In what year was the wastewater system originally installed? _____
3. Sketch the location of the well, wastewater system and any surface discharge relative to your building, driveway, and property line.

3. Sketch the location of the well, wastewater system and any surface discharge relative to your building, driveway, and property line.

4. Do you have a problem with your wastewater system? ____ yes ____ no.
If you do not have a problem skip to question 9.

5. Indicate the type of wastewater system problems that best describe your situation and the number of times each month they occur.

Problem	Yes or No?	Frequency per month	Date of Last Occurrence
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Slow drainage of plumbing fixtures or backup into house.

Odors

Liquid on ground surface.

Restricted
water usage.

Others (specify):

6. In what season(s) do you have problems with your onsite system (check more than one, if appropriate). ____ spring ____ summer
fall ____ winter.

7. Do you have onsite system problems after periods of heavy or frequent rainfall? ____ yes ____ no
8. How have you solved your onsite system problems? (check method used)
- a. _____ pumping
 o how often? ____ weekly ____ monthly ____ other (specify) _____
 o What is the cost of each pumpout? _____
- b. _____ restricting water use
 o how? _____
- c. _____ repairing system
- d. _____ other (specify) _____
- e. _____ no action taken
9. If you have had your system repaired or modified please provide the following information for each such occurrence:

<u>Date</u>	<u>Problem</u>	<u>What Was Done</u>	<u>Did Repair Alleviate Problem</u>	<u>Cost</u>
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10. How often do you have your septic tank pumped?
 ____ once a year ____ once every 2 years ____ once every 3 years
 ____ never, ____ other (specify) _____
11. What water using appliances do you have connected to the onsite wastewater system?
 ____ washing machine ____ dishwasher ____ garbage disposal
 ____ others (specify) _____
12. How many gallons of water do you use each day during the winter months? ____

13. How many people in each age group are there in your household? ____
0-12 years ____ 13-18 years ____ over 18 years
14. When is your house occupied? ____ year round ____ seasonally (specify months) _____
15. Do any of your neighbors appear to have onsite system problems?
____ yes ____ no ____ don't know
- o What types of problems do they appear to have?
(Specify the number of neighbors having each problem.)
- ____ liquid on ground surface
____ odors
____ frequent pumping
____ other (specify) _____
16. Do you fertilize your lawn? ____ yes ____ no
o Approximately how many pounds do you apply annually? _____
17. Do you have any comments you would like to make that would help us in evaluating the condition of your wastewater disposal systems?
- _____

Thank you for your time. There will be public meetings in the future to discuss the survey's results and wastewater planning. Please try to attend these meetings.